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RICE

ITS NUTRITIVE VALUES AND CULINARY USES

WITH 120 TESTED RECIPES

PASCUALA DE JESUS

FILIPINIANA
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RICE

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ITS NUTRITIVE VALUES AND CULINARY USES
(With 120 tested recipes)

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by

Pascuala de Jesus
Formerly Professor of Foods
The Philippine Women's University

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PREFACE

This book, like the first and second edition, is intended to fill up the growing demand for the scientific preparation of the Philippine staple food—rice—by the students of home economics and nutrition as well as by homemakers.

The contents are the results of researches made in the Foods Laboratory of the Philippine Women's University and of long years of experience obtained in a varied setting in both the public and private schools here and abroad.

In the preparation of this edition, I wish to acknowledge with gratitude the invaluable services rendered by Professor Remigia Carpio-Laus of the Education Department, PWU and Editor of *The Philippine Educational Forum* for suggestions on the content and organization of the entire manuscript, for editing, and, most important, for making possible the publication of this book.

No less gratitude is also extended to Mrs. Elpidia Bonanza and Miss Consolacion Kudemos of the Bureau of Public Schools, to Miss Josefina Carmona of the Bureau of Private Schools, and to Dr. Angelina Alcaraz-Bayan, Head of the Nutrition Department of the Philippine Women's University for helpful suggestions given.

PASCUALA DE JESUS

The Philippine Women's University
August, 1965

INTRODUCTION

The progress of science and arts during the last quarter of a century has been so fast that man wonders now how he could march with time. In the field of agriculture, food and health should be merged together otherwise the simultaneous development of prolific varieties and the improvement of qualities thereof are of no significance if proper utilization through well-studied method of preparation for human consumption are not carefully and realistically evaluated.

Of all the plant products which are considered the most important among other food cereals being consumed by more people in the world, rice is preeminent. It is a happy coincidence that while the International Rice Research Institute is being started in the College of Agriculture, University of the Philippines, through the joint humanitarian and philanthropic project of the Ford-Rockefeller Foundations a book on RICE: ITS NUTRITIVE VALUE AND PREPARATION has been written by an eminent professor of foods and cookery in the Department of Home Economics, PWU. With a wide background of the author in the Philippines as well as in the universities of Indiana and Illinois, we should congratulate ourselves for the timely publication of this book thereby furnishing a torch for guidance to all rice-consuming individuals for the wise use of the nutritive value of rice through the scientific ways of preparation as emphasized in the book.

With this book man is assured of his improved health as an additional incentive to rice farmers for more and better quality of rice production.

November 3, 1959.

JUAN DE G. RODRIGUEZ
Secretary of Agriculture and
Natural Resources

GLOSSARY

1. *achuete* — Red seeds of achuete plant used for coloring food.
2. *angkak* — Red colored rice used to color food.
3. *anis* — Spicy seeds of anis plant with licorice flavor.
4. *bay leaves* — Leaves of laurel plant. Dried, they are used to season meat.
5. *bijon* — Noodles made from rice starch; chief ingredients for pancit.
6. *darak* — Rice bran, a by-product of rice when polishing is done.
7. *galapong* — Wet ground rice.
8. *halaan* — A mollusk (a kind of shellfish).
9. *lansungan* — A steamer made of bamboo or of tin used for steaming puto or cuchinta.
10. *latik* — Protein of coconut milk that precipitates when the milk is boiled until the water is evaporated.
11. *linga* — Tiny seeds of linga used for flavoring or garnishing bread products.
12. *paminton* — (paprika) red powder used for coloring and seasoning food.
13. *patis* — A kind of sauce made from salted shrimps or salted fish juice concentrated by boiling.
14. *pimiento* — Canned red pepper.
15. *pinipig* — Malagkit rice, roasted and pounded before fully matured.
16. *rice corn* — Coarsely ground grains of matured corn.
17. *stock* — Broth of meat or liquid in which fish meat or vegetables have been cooked.
18. *tart jelly* — Jelly that tastes a little bit sour.
19. *truss* — To fasten the wings and legs of chicken or turkey in place with strings or skewer before roasting.
20. *turmeric* — Powdered yellow ginger used for coloring or seasoning food.

We may live without poetry, music and art;
We may live without conscience, and live without heart;
We may live without friends; we may live without books;
But civilized man cannot live without cooks.

He may live without books, — what is knowledge but grieving?
He may live without hope, — what is hope but deceiving?
He may live without love, — what is passion but pining?
But where is the man that can live without dining?

Meredith's *Lucille*

CONTENTS

Page

PREFACE i
INTRODUCTION iii
GLOSSARY iv

Chapter I—Rice as a Staple Food 1
  A. Polished Rice and Beriberi 1
  B. The Nutrient Content of Rice 2
  C. Effect of Processing and Household Preparation on the Nutritive Value of Rice 4
    1. Milling 4
    2. Parboiling 7
    3. Washing and Cooking 7
  D. Improvement of Nutritive Value 11
  E. Techniques Used in Rice Cookery 14
  F. Techniques Used in Different Countries 15
    1. China 15
    2. Burma 16
    3. India 16
    4. United States 17
    5. Puerto Rico 17
    6. Philippines 18

Chapter II—Studies on Rice Cookery 19
  Experiments on the Methods of Cooking Rice 20
  Standardized Ingredients 26

Chapter III—Recipes
  A. Rice

    1. As a Basic Food 29
    2. As Soups 30
    3. As Appetizers 33
    4. As Garnishes 33
    5. As Entrees or Main Dishes 34
    6. As Desserts, Breakfast, Merienda or Snacks 41
  B. Rice Bran or Darak 64
APPENDIX 72
INDEX OF RECIPES 80
BIBLIOGRAPHY 83

Table of Equivalent Measures

speck	less than 1/8 tsp.
f.g.	few grains
dash	less than 1/8 tsp.
2 tbsp.	1/8 cup
4 tbsp.	1/4 cup
5 tbsp. + 1 tsp.	1/3 cup
8 tbsp.	1/2 cup
10 tbsp. + 2 tsp.	2/3 cup
12 tbsp.	3/4 cup
5/8 cup	1/2 cup + 2 tbsp.
7/8 cup	3/4 cup + 2 tbsp. or 1 c. – 2 tbsp.
2 cups	1 pint
4 cups or 2 pints	1 quart or 32 fluid ounces
4 qt.	1 gallon
16 cups	1 gallon
16 oz.	1 lb.
2 tbsp.	1/8 cup
1000 grams	1 kilo or kilogram
2.2 pounds	1 kilo
3 tsp.	1 tbsp.
5 grams	1 tsp.
2¼ cups granulated sugar	1 pound
3½ cups confectioner sugar	1 pound
4 cups sifted all purposes flour	1 pound
4½ cups sifted cake flour	1 pound
3 cups seedless raisins a pkg.	15 ounces
12-14 egg yolks	1 cup
8-10 egg white	1 cup
5-6 whole eggs	1 cup

Abbreviations Used in Food Preparation

f.g.	few grains	pt.	pint
spk.	speck	qt.	quart
ss.	saltspoon	gr.	grain
t. or tsp.	teaspoon	gm. or g.	gram
tb. or tbsp. or T.	tablespoon	ml.	milliliter
c.	cup	cc.	cubic centimeter
sq.	square	gal.	gallon
oz.	ounces	li.	liter
lb.	pound	kg.	kilogram

Abbreviations are used in singular form regardless of whether the item is singular or plural.

Chapter I

RICE AS A STAPLE FOOD

The food problem of a country depends not only on quantitative production but also on the wise and proper preparation and cooking of the food itself. In the Philippines where production is still insufficient as evidenced by the great amount of foreign importation and the present high prices, the improvement of rice cookery is a national concern which necessitates and justifies any study. It is a fact that the improper preparation and the cooking of rice cause the loss of food nutrients or of the food material itself.

Since the rice mills were introduced in the Philippines, the rice coming from them known as polished rice has been received with approval due to its appeal to the eye and to the palate. The polished rice, however, is far more deficient in nutritive value than the unpolished rice pounded the old way with the use of the mortar and the pestle (Plate 1). In fact, science has proved that unpolished rice is rich in Vitamin B and that polished rice from the rice mills is deficient in Vitamin B which accounts for the high incidence of beriberi in the Philippines.

Polished Rice and Beriberi.—Much has been said about the occurrence of beriberi in the rice-eating countries where people live on diets containing large amounts of polished rice. In Oriental countries where consumption of milled rice is high and the diet is not properly supplemented with other protective foods, the deficiency disease, beriberi, is among the foremost causes of death and is a great problem. In the Philippines, it ranks third as the cause of death (Table I). Women of childbearing age are generally affected by it in mild chronic form. Infantile beriberi in breast-fed babies is extremely prevalent.

TABLE I

LEADING CAUSES OF DEATHS IN THE PHILIPPINES*
(Number and Rate with 1,000,000 population—5 years average)

CAUSES	1950-1954		1955	
	No.	Rate	No.	Rate
1. Pneumonia	28,526	139.20	25,329	117.71
2. Tuberculosis	28,863	141.12	24,588	114.26
3. Beriberi	23,482	114.50	22,055	102.49

Over 70 years ago, Admiral Takaki succeeded in eliminating beriberi from the Japanese Navy by partially replacing milled rice with barley and wheat in the diet of the sailors. The well-known researches of Eykman and Gryns in Java from 1890-1900 made it clear that beriberi is a food deficiency disease associated with the consumption of milled rice and that it can be prevented by replacing milled rice with husked or undermilled rice. Another very striking illustration of the relation of beriberi to white polished rice is the case of the Philippine Scouts. Prior to 1910, the ration of the troops consisted essentially of beef, white flour, potatoes, onions, and polished rice. Out of 5,000 scouts, 100 to 600 developed symptoms of beriberi annually. The number of cases was decreased to 50 within a year and later fell to nearly zero when the polished rice was replaced by undermilled rice, beans, and sweet potatoes.[15]

It was observed that beriberi was rare in the areas in which home-pounded rice was eaten.

The Nutrient Content of Rice.—The three cereals of the world—rice, wheat, and corn—do not differ widely in their nutrient content as shown in Table II.[2] The total protein contents of rice is lower than that of most varieties of wheat and whole corn. On the other hand, the protein of rice is of good quality. It will be seen from Table III that the protein of white

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* *Rice and Health and the Implementation of the Rice Enrichment Law.* Prepared by the Philippine Association of Nutrition, Manila. Page 10.

TABLE II

AVERAGE COMPOSITION OF RICE, WHEAT, AND CORN

(Kik, M. C. and Williams, R. R., "The Nutritional Improvement of White Rice," *Bulletin of the National Research Council*, No. 112, 1945)

	CORN	RICE		WHEAT	Husked
		Milled	Whole	Flour	Whole
100 calorie portions (in grams)	28.0	29.0	28.0	28.0	27.0
Protein (per cent)	8.9	7.6	11.1	9.3	10.0
Fat (per cent)	2.0	0.3	1.7	1.0	4.3
Carbohydrate (per cent)	77.2	79.4	75.5	77.2	73.4
Fuel value per hundred grams (in calories)	365.0	351.0	362.0	355.0	372.0
Ash (per cent)	1.90	0.4	1.8	0.5	1.50
Fiber (per cent)	1.0	0.2	2.4	0.4	2.3
Vitamins (parts per million)					
Ascorbic Acid	0	0	0	—	0
Thiamine	3-5	0.6-1.0	3.2-7.7	0.87	4.4
Riboflavin	.8-1.0	0.28	1-1.2	0.40	1.3-1.5
Nicotinic acid	55	15-20	53	10.00	21*
Pantothenic acid	17	6.4	13.4	5.70	8*
Pyridoxine	10.3	4.5	4.6	2.20	—
Choline chloride	—	880	920	520	370*
Vitamin A (international units per gram)	.5-1.0	0	0.2-0.25	—	0 7-7.5*
Tocopherol			9.10	0.30	25.0 T 31.0*
Minerals (per cent)					
Calcium	0.084	0.009	0.50	0.20	0.015
Magnesium	0.119	0.028	0.170	—	0.160
Potassium	0.342	0.079	0.480	—	0.400
Sodium	0.078	0.028	0.100	—	0.050
Phosphorus	0.290	0.096	0.400	0.092	0.430
Chlorine	0.023	0.006	0.090	—	0.02
Sulfur	—	—	0.180	—	0.140
Iron	0.0020	0.0009	0.004	0.00084	0.003
Manganese (parts per million)	—	10.14	45.91	—	6.83
Copper (parts per million)	3.60	1.90	7.87	1.70	4.49

* — Yellow
T — White

(milled or polished) rice compares favorably in amino-acid content with whole wheat and whole maize proteins.

The mineral content of rice is low, like that of other cereals (Table II). The calcium-phosphorus ratio is unfavorable, only about 1:10 instead of the optimum ratio, 1:2. Rice like wheat is a poor source of fat and milling removes most of the fat from both grains. The vitamin E content of whole rice is considerable. Whole rice compares well with whole wheat as a source of water-soluble vitamins, but wheat has a higher thiamine content. The riboflavin content is low and vitamin C is practically absent.

From experiments on reproduction and lactation in rats, rice and its by-products have been found to be a good source of panthothenic acid and pyridoxin—two other vitamins in B complex. Husked rice was reported to be a better source of pyridoxin and inositol for rats than polished rice, but no significant differences were found with regard to panthothenic acid and p-amino benzoic acid.

Effect of Processing and Household Preparation on the Nutritive Value of Rice

Milling.—The degree of milling the rice determines the amount of nutrients removed. Protein, fat, vitamins, and minerals are present in greater quantities in the germ (Figure 1) and in the outer layers than in the starchy endosperm. It has been reported that 76.3,

TABLE III

APPROXIMATE AMINO ACID CONTENT OF THE PROTEINS OF CEREAL GRAINS
(Calculated to 16.0 Grams of Nitrogen)*
(Block, R. J. and Mitchell, H. H. Nut. Abs. Rev. 16.249—1946)[15]

	Wheat Whole G	Whole Maize G	White Rice G
Arginine	2.2	4.8	7.2
Histidine	2.1	2.2	3.2
Lysine	2.7	2.0	5.6
Tyrosine	4.4	5.5	1.3
Tryptophan	1.2	0.8	6.7
Phenylalaine	5.7	5.0	1.4
Cystine	1.8	1.5	2.7
Methionine	2.5	3.1	3.4
Leucine	6.8	22.0	9.0
Isoleucine	3.6	4.0	5.3
Valine	4.5	5.0	6.3
Glycine	—	—	10.3
Methionine	2.5	7.2	3.4

* Equal to about 95 grams of protein.

56.6, and 63.0 per cent respectively of the thiamine, riboflavin and niacin originally present in husked rice were removed during the milling process.[15] The amount of niacin, vitamin B_6 and riboflavin retained in "finished" rice, expressed in percentages of the amounts present before milling, were found to be 21.5 for niacin, 25.6 for vitamin B_6 (pyridoxin) and 32.2 for riboflavin.[15] The general effect of milling on thiamine is to reduce the thiamine content of husked rice from 3.0-5.0 micrograms to 1.0 microgram or less per gram. As to the protein content, it has been reported that milled rice may contain 17 per cent less of this nutrient than husked rice.[15]

In the process of milling, the material known as rice bran or *darak* is removed from the rice kernel. This is also known as *tikitiki*. This by-product of rice is high in nutritive value. Its protein content ranges between 10 to 18 per cent and the fat between 8 to 20 per cent. It is also rich in iron. Per gram it may also contain 30 to 50 micrograms of thiamine (10 to 15 times as much as husked rice and, often, more than 50 times as much as milled rice); 0.1 to 0.2 milligram of niacin; and 1.5 to 3.5 micrograms of riboflavin.[15] Rice bran has been used chiefly as a cheap feed for pigs, fowls, horses, and others, but the Bureau of Science prepared an extract of darak or tikitiki which is used extensively for the cure of infantile beriberi. The availability of synthetic thiamine has reduced its importance as a therapeutic agent against beriberi. Rice polishing of good quality may be used in various ways and may be of special value in periods of food shortage and famine. Long before World War II Maria Orosa, formerly Chief of the Division of Plant Utilization in the Bureau of Science, found that fresh rice bran mixed with wheat flour makes excellent muffins, hot cakes, cookies, and crackers. The taste is very similar to products made from graham flour. Rice bran foods, according to her, are not only highly nutritious but are also very tasty. It can be used in proportion of half or more when mixed with wheat flour. The rice bran should be used fresh or should be

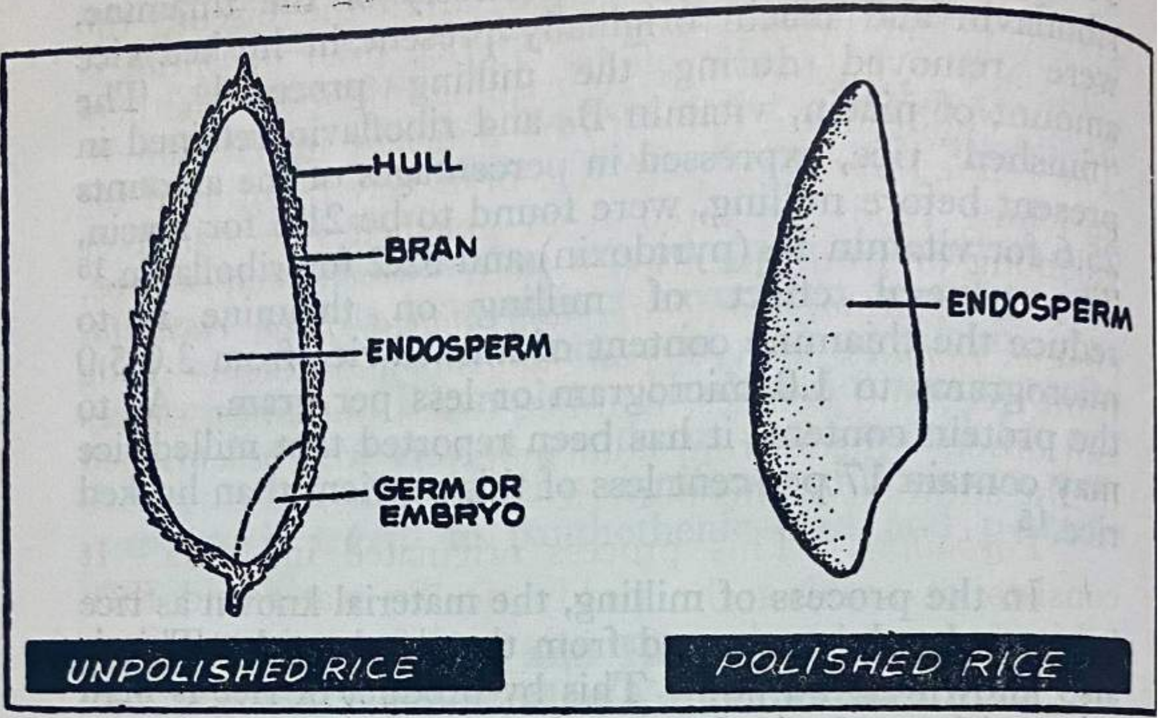

Figure 1.—The difference between polished and unpolished rice

treated so that it will not become sour or rancid. The oil of ordinary rice bran contains an enzyme that causes it to become rancid rather quickly. The enzyme can be inactivated or destroyed by heating the rice bran to 90°C after which it has good keeping qualities.

Sometimes the rice bran is adulterated with the rice husk (*ipa*) that has been pulverized by a special machine. The pure rice bran, not the adulterated, is the one recommended for human food. The pure *darak* is obtained from rice polishing made up of the outer portion of the grain after the husk (*ipa*) has been removed. It also includes the germ or the embryo which is removed when the rice is milled or polished (Figure 1). With only the hull removed, the rice becomes brown rice; when milled and polished, it is white rice.

The embryo and the outer part of the grain proper are the most nutritious parts of the rice and both are rich in protein, fat, minerals, and vitamins, especially vitamin B. The endosperm, the part of the grain left when the rice is milled or polished is composed largely of starch and is very deficient in vitamin so that a diet composed largely of polished rice often results in beriberi.

[redacted]

According to the late Miss Orosa the biscuit, the crackers, and others made from rice bran or *darak* is especially valuable for nourishing beriberi mothers whose children are likely to be deficient in Vitamin B. The refined *darak* or pure rice bran may be utilized for enriching foods prepared from polished rice starch or galapong or from unenriched flour. Such recipes (nos. 81-101)—*palitao*, *bibingka*, *maja blanca*, *puto*, *cuchinta*, *espasol*, *tamales*, *ukoy*, *suman*, *kalamay* and others—made from rice; and cookies, muffins, cakes, puddings, sauces and others—made from flour may very well be enriched by the addition of this pure rice bran.*

Parboiling.—This process originated in India. It consists of soaking the paddy rice in water and then subjecting it to boiling and steaming for a short period. In many parts of India, parboiled rice is consumed in preference to raw rice. Aykroyd and Swaminathan have shown that parboiling of rice greatly reduces the losses of thiamine and nicotinic acid from the grain on subsequent milling.[18] Parboiled milled rice contains three to four times as much of these vitamins as raw rice of the same variety milled and processed to the same degree. It has been observed that beriberi does not exist in localities where parboiled rice is used.[18]

[redacted]

One objection to parboiling rice is the musty flavor. (This kind of rice was distributed after World War II in Manila by the National Rice and Corn Corporation, but due to its color and peculiar taste it found very little acceptance.)

Washing and Cooking.—Rice is the only cereal which is usually washed in the course of domestic preparation and this process has a serious effect on its nutrient content. In Table IV when the losses of thiamine, riboflavin, and niacin occurring during the washing of *brown husked* and *milled rice* respectively are compared, the figures are 21.1 and 43 per cent for thiamine, 7.7 and 25.9 per cent for riboflavin and 13.0 and 23.0 per cent for niacin. Rice infested with weevils or molds is usually more impoverished by washing.[15]

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*About twenty Orosa recipes containing pure rice bran and which have been tried by the author in her cookery classes appear on page 63-70.

TABLE IV

EFFECT OF WASHING ON THE THIAMINE, RIBOFLAVIN, AND NIACIN CONTENT OF RICE

(Kik, M. C. and Williams, R. R. "The Nutritional Improvement of White Rice"
Bulletin of the National Research Council, No. 112, 1945)

	THIAMINE			RIBOFLAVIN			NIACIN		
	Before (micrograms/ gram)	After	Loss Percent	Before (micrograms/ gram)	After	Loss Percent	Before (micrograms/ gram)	After	Loss Percent
Husked (brown)	4.40	3.47	21.14	.65	.60	7.70	54.00	47.00	13.00
Milled (white)	.65	.37	43.07	.27	.20	25.92	20.57	15.83	23.04
Malekized (parboiled)	2.01	1.70	15.42	.40	.34	15.00	42.20	35.00	13.00
Converted (parboiled)	3.01	2.82	6.62	.41	.36	12.19	49.00	44.00	10.20
Earle (undermilled)	2.94	2.75	6.46	.38	.34	10.52	50.00	42.00	16.00

The use of too much water in cooking and subsequently discarding the surplus is the cause of most depletion. Table V shows that as much as 30 per cent of the thiamine remaining in washed rice may be removed by cooking in this way. Cooking in open vessels leads to greater losses of thiamine than cooking in a double boiler; the same is true of riboflavin and niacin. It is said that the drastic washing of rice combined with the discarding of the cooking water nullifies any improvement in the nutritive value of the rice previous to household preparation that can be achieved by any known method.[15] Limited washing and suitable cooking on the other hand will very substantially prevent losses.

Some investigators (Van Venn, 1940), reported that the manner of washing and cooking can be of greater importance than the degree of milling.[2] The discarding of water in which the rice is boiled should be avoided, since it involves the loss of valuable materials.

Aykroyd reports that the average losses of thiamine are from 40 to 50 per cent while Swaminathan found that raw rice samples lost an average of 60 per cent of niacin on first washing; the second and the third washing did not remove much.[2] The losses caused by cooking alone depend on whether the cooking water is discarded or not. The losses are small, if only as much water is used as will be absorbed by the rice in cooking. The prevailing practices of washing and cooking rice also result in appreciable losses of protein and phosphorus.[2]

The use of unwashed rice for the prevention of beriberi in India has been advocated by Platt. Platt states that storage of the brown rice in hermetically sealed containers prevents development of undesirable flavor and that no washing is required with good storage. He also recommends milling of rice shortly before consumption. He regards improvement of the cleanliness of mills and storage places as important, since washing is unnecessary in case of clean milled rice of good commercial quality, the milling in itself a cleansing process.[2]

Table V

EFFECT OF WASHING AND COOKING ON THE THIAMINE CONTENT OF RAW AND PARBOILED MILLED RICE

(Swaminathan, M., *Ind. Jour. Med. Res.* 30, 409—1942)

Sample number	Vitamin B_1 content, (micrograms per gram)	Wash-water (micrograms per gram) of original rice	Percentage loss in washings	Washed rice, (micrograms per gram) by difference	Cooked rice congee (micrograms per gram) of original rice	Percentage of vitamin B_1 present in washed rice removed on cooking
Raw milled	(1.. 1.0 (2.. 1.2	0.6 0.6	60 50	0.4 0.6	0.2 0.1 0.3 0.2	25 33
AVERAGE	.. 1.1	..	55	..	0.25 ..	30
Parboiled milled	(1.. 1.9 (2.. 2.4	0.2 0.2	10 8	1.7 2.2	1.2 0.4 1.6 0.5	25 25
AVERAGE	.. 2.2	..	9	..	1.4	25

Improvement of Nutritive Value.—Efforts made by rice-eating nations towards the eradication of beriberi such as the reform of milling practices and the wider use of other foods have been unsuccessful for one reason or another. In their concern for people to continue eating white rice and at the same time eat highly nutritious rice, authorities conceived of rice enrichment.

The enrichment of flour of low extraction with certain nutrients successfully adopted in the United States has given an idea on the possibility of the same procedure in the case of rice. Methods of solving some of the technical problems involved in rice enrichment have, however, been devised.

The aim of rice enrichment is to add to the milled rice so as to give the resulting product a nutrient content equivalent to that of husked rice. Two methods of enrichment have been advocated. In both, enrichment involves two steps: (a) preparing a fortified premix by Hoffmann-La Roche and (b) diluting the premix with ordinary white milled rice in a subsequent process by E. A. Fieger.[2]

The premix consists of ordinary white milled rice which is impregnated with a concentrated solution of vitamins and of minerals chosen for enrichment. The impregnated grains are then coated with film-forming edible substance. This coat protects the vitamins from deterioration and prevents substantial losses during the washing prior to cooking.

The final enrichment product is prepared by blending the premix with rice by means of a suitable mixing procedure. If thiamine, niacin, and iron in the form of pyrophosphate are the nutrients added to the premix, its appearance does not show any change from ordinary white rice. But when riboflavin is added the color becomes yellowish.

Fortification of the premix rice with 1 mg. of thiamine and 13 mg. of niacin per gram, the blending of the premix with milled rice in the proportion of 1 to 200, yield a final product with a vitamin content equivalent to or somewhat higher than that of husked rice. Enriched rice so prepared contains 5 micrograms of thiamine and 65 micrograms of niacin per gram.

Tests have shown that by the use of the mixing method advocated, the premix is homogenously distributed throughout the finished enriched rice. Flavor and cooking quality are not affected by the enrichment procedure. It is claimed that the household washing of enriched rice prior to cooking will not remove more than 3 to 5 per cent of the added vitamins.

With the enrichment procedure at its present state of development, only thiamine, niacin, and iron are added replacing those that have been removed in the process of milling.

The custom of washing rice thoroughly before cooking is universally prevalent in spite of the fact that appreciable loss of nutritional value is involved. Synthetic enrichment of white rice affords protection of the added nutrients against washing. In the La Roche process,[5] this is accomplished by a water resistant film which protects the enrichment premix. Thus any washing losses which are incurred are due almost entirely to the usual losses from the untreated white grains. The percentage retention of nutrients in washing any type of rice depends on a number of factors including length of washing period, volume and temperature of wash water, and vigor or agitation.

Losses of nutrients which occur during the cooking can vary considerably depending on the cooking method or recipe used. Methods involving cooking with a large excess of water followed by discarding of the cooking water or methods involving steaming with subsequent discard of the condensed water lead to high losses regardless of the kind of rice used. Unnecessary long cooking causes increased losses of vitamins.

The high incidence of beriberi as shown by the records of the Bureau of Health which reported a fairly constant beriberi death rate from the mid-twenties up to 1940 made the Philippines the place of the experiment for rice enrichment. During 1946 and 1947 beriberi ranked second to pulmonary tuberculosis with mortality rate of 147 for every 100,000 population.[13]

The experiments and studies on enriched rice in Bataan after the Liberation were undertaken and administered by the Department of Health of the Republic of the Philippines; by the William-Waterman Fund for the combat of Dietary Disease; by the Hoffmann-La Roche, Incorporated of Nutley, New Jersey; and by the National Rice and Corn Corporation of the Philippines under the so-called Bataan Enriched Rice Project.[16]

The "premix" donated by Hoffmann-La Roche contains thiamine, niacin, and iron pyrophosphate in such concentration that when one part by weight of this premix is mixed with two hundred (200) parts by weight of white polished rice, the final mixture (now known as Enriched Rice) is guaranteed to contain per pound 2.5 milligrams of thiamine, 16 milligrams of niacin, and 13 milligrams of iron pyrophosphate. This large-scale artificial enrichment of white rice started on October 1, 1948 in Bataan Province and, as planned, it was to last for two years.

During the full-year implementation of rice enrichment there was a decline of 67.3 per cent in beriberi deaths in the experimental area and an increase of 2.4 per cent in the control area, as compared to the year immediately prior to enrichment.

In the seventh quarter after rice enrichment started, not one death from beriberi was recorded in any of the seven towns in the experimental area. Six months after, no death from beriberi was reported from Bataan.

The success of the experiment led the Philippine government to extend the program to 1,800,000 people in places where by the end of 1951, about 10 per cent of the entire population had a beriberi death rate of 4,400 persons per year. Additional rice enriching equipment made it possible to introduce enriched rice in Tarlac and Pangasinan, two provinces with the next highest death rates from beriberi.

The Congress of the Philippines passed the Rice Enrichment Law (Republic Act No. 832) on August 14, 1952. This law became effective in Bataan, Tarlac, and Pangasinan from February to April, 1953.

Due to the vagaries of politics and other difficulties encountered in the implementation of the law there was a gradual decline and laxity of enforcement leading to the final abandonment of the rice enrichment project. Lately, the project was revived in Congress only to be shelved mainly because of the dollar control.

Countries undertaking cereal enrichment by legislation are:

Flour and Bread Enrichment

- United States—24 states (wheat producers)
- England
- Newfoundland
- Hawaii
- Puerto Rico

Rice Enrichment

- Puerto Rico
- South Carolina (U.S.A.)
- Hawaii
- Philippines
- New Zealand
- New Guinea
- Columbia

Techniques Used in Rice Cookery.—Methods of cooking rice are of considerable importance with respect to the nourishment derived from the grains. Rice is chiefly used in plain boiled form. An objective in its preparation sought by people in the rice-eating region is the avoidance of stickiness in the cooked grains. Many devices are used to accomplish this purpose—some of them are detrimental to the nutritional quality of the rice.

These devices are:

1. *Rinsing of the raw rice before cooking.* This serves to remove the fine starch that is readily solubilized during cooking and thereby adds to stickiness.
2. Doing the following in the process of cooking:
   a. Much water is used and the excess drained away, carrying with it most of the starch which has been rendered soluble.
   b. The rinsed raw rice is immersed in water in a quantity just sufficient to swell the grain properly and cooked in a double boiler or over a slow fire (to avoid burning at the bottom) until the water is fully absorbed.
3. *Rinsing of the cooked rice.* This is often resorted to in order to remove further the films of soluble starch on the surface of the grain.

4. *Rice in some cases partly cooked according to 2.* After draining off the water, the half-cooked rice is steamed to a state of tenderness by supporting it in a pan or basket in an enclosed space over freely boiling water.[2]

McCarrison and Norris found that washing of rice causes a great loss of minerals and thiamine. These authors are of the opinion that the occasional occurrence of beriberi in spite of the use of parboiled rice in India is due to the practice of washing the rice prior to cooking.

Techniques Used in Different Countries

China.—The Cantonese method employs for cooking a volume of water equal to that of the uncooked rice perhaps one and one-half times as great. The rice is cooked over a slow fire in a thick-walled iron or clay pot until all the water is absorbed. The resulting rice is loose and free, and like all other solid foods, is eaten with chopsticks. The losses of nutrients in such cooking rice are negligible. However, there are significant losses due to rinsing, which precedes the cooking by the method described above.

A method that is desirable from the nutritional point of view is the use of rice in gruel form. This method is regarded by the Chinese as the most economical, since the greatly swollen and softened grain fills the stomach and is most fully utilized by the body. Rinsing of rice for gruel making is not generally practiced.

It is assumed that the first method, the Cantonese method, applies 10 to 15 per cent of the rice consumed in China, while the second method (rice in gruel form) applies 20 to 30 per cent of China's food. Rice is steamed somewhat according to method 4 (p. 15). After boiling briefly in three parts of water, the rice is drained and transferred to the bamboo grill supported by a wooden cylinder. The lower end of the wooden cylinder rests in boiling water above which is the rice resting on the grill and exposed to the steam until it is fully cooked. Choice of the proper wood for the cylinder is thought important for its flavoring effect on the rice. It is assumed that this is the most popular method but the most undesirable one.

Burma.—Rice is washed thoroughly with seven or eight changes of water and is then put into a clean pot of boiling water, the water being in great excess of the rice. After the minimum amount of boiling (five to eight minutes) sufficient to soften the grain, the water is drained off through the covered pot after which the pot is placed near the fire to complete the cooking. Every ten minutes or so the covered pot is inverted and shaken well. The cover is raised momentarily to release the steam and the pot is placed with another side near the fire. The cooking water is usually thrown away, although it contains enough starch to form a solid gel when cold.

India.—The methods of cooking rice vary in different provinces and districts. It is often the practice to use as little water as possible and the "congee" (rice water) is often taken. The rice is usually washed before cooking and washing is regarded essential by the rice-eating population. The losses from washing are thus more important and constant than the losses from cooking.

United States.—In states of high rice consumption, rice is used in many ways, but most of all, as a basal accompaniment to a meat dish in a manner as potatoes are served in other parts of the United States. Rice usually appears on the table daily at one or more meals. A staple dish of wide use is the combination of rice and black-eyed peas (or beans) cooked separately but served together.

Open-vessel cooking with excess of water and double-boiler cooking in a minimum of water are equally used. Half of the consumers wash the rice three times before cooking. Forty per cent of the rice eaters discard the cooking water. Rinsing of the cooked rice takes place in thirty per cent of the cases. From these practices it appears that little thiamine is left in the white milled rice finally used for human consumption.

Soaking rice before cooking is also practiced. The average time for soaking is more than four hours. The extreme soaking time is twelve hours. According to Van Venn, the soluble vitamins penetrate deeper into the kernel through soaking and are less easily lost during careless handling in cooking.

Puerto Rico.—Rice is used in the preparation of special dishes, but most of the rice is either plain-boiled or stewed. Rice is rinsed about two or three times before cooking. Plain-boiled rice is rice cooked in water with salt and lard.

In cooking rice, two methods are used. With the first method, white rice is added to boiling salted water and allowed to boil uncovered until a large amount of water has been absorbed by the rice. Lard is added, the rice is stirred a little, and then covered and allowed to cook over a low flame.

With the second method, fat is first melted, rice is added and slightly fried. Water is added and the rice is boiled until it has absorbed a large amount of water. It is covered and cooked slowly over a low flame. The first method is used in the preparation of stewed rice. Both methods are used in the preparation of plain-boiled rice. Water is added as needed for the desired consistency and no water is poured off after the rice is cooked.

Philippines.—It appears that in almost all parts of the Philippines rice is washed thoroughly in three or four changes of water, giving the rice vigorous rubbing in every change of water until all cloudiness is removed from the rinsing water. Much of the cooking is done without measuring the water. So, an inexperienced cook often commits error. Oftentimes, she used more or less water. If the water happens to be in excess, it is discarded, but if not sufficient, some more is added thus causing the lack of uniformity in the finished product.

Chapter II

STUDIES ON RICE COOKERY

Necessity for the Study.—Throughout the Philippines there is still the prevalent use of the old method of washing the rice in several changes of water, calculating the quantity of water used in cooking. If the water happens to be too much, the excess is discarded and when it is too little, some more is added. Even in the matter of utensils used, people do not take into account the size of the vessel suited to the amount of rice to be cooked. Preparation of rice for cooking has been unscientific.

In view of the prevalent unwise practices in the preparation of and due to the lack of standardized methods of cooking rice, studies* on rice cookery were made in the Home Economics Department of the Philippine Women's University. These studies were made:

1. To determine the amount of water and length of time needed in cooking rice.
2. To detect the difference in the taste of washed and unwashed rice.
3. To determine the advantages of cooking rice in a double boiler.
4. To determine the effect of cooking rice in combination with other foodstuffs for the purpose of improving both the taste and the food value.
5. To determine the right length of time and the right size of the cooking utensils needed for cooking rice.
6. To provide formulas for the different ways in which rice and its by-products are used in cookery in order to avoid the "hit and miss" method in their preparation.

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* The studies were made in 1949 in preparation for a thesis for the degree of Master of Arts.

The study was conducted through a series of experiments in two parts:

1. Experiments dealing with the *methods* of cooking rice as a basic food.
2. Experiments determining the *reasonable proportions of different ingredients* used in cooking dishes in which rice and its by-products are cooked.

Experiments on the Methods of Cooking Rice

Experiment I.—To detect the difference in the taste of washed and unwashed rice.

Two cups of white polished rice that had been stored for three months from the time it was milled and two saucepans holding a quart each were used. After sorting the rice over, one half of it was cooked without rinsing and the other half rinsed four times with vigorous rubbing after each rinsing. One and one-half cups water were used for each portion in cooking. Both were cooked on the electric stove over high heat. The heat was turned to medium when they started boiling; then to low when the rice was already dry. Both were allowed to finish cooking by steaming. From the time the cooking vessels were put on the stove to the time the rice were considered cooked, it took about 30 minutes. The grains were whole but soft.

Result: Those who tasted the cooked rice could not detect any difference in flavor.

Experiment II.—To determine the correct proportion of water for cooking.

Three one-quart saucepans were used and were labeled 1, 2, and 3. Wagwag rice harvested a year ago was used.

Pan No. 1 contained 1 cup rice and 1 cup water.
Pan No. 2 contained 1 cup rice and 1½ cups water.
Pan No. 3 contained 1 cup rice and 2 cups water.

All the pans were placed on the electric stove with high heat. When the rice started boiling, the heat was turned to medium. When all the water was absorbed by the rice the heat was turned off and the rice allowed to steam with the heat left in the burners.

Result: Three out of the five judges preferred rice No. 2 which met the standard characteristics of boiled rice—not too soft, not too hard—with a proportion of 1 cup rice to 1½ cups water.

This experiment holds true with this particular type and age of rice.

However, the amount of water varies not only upon the age but also upon other factors such as the variety and the quality of rice and the preference of the individual. The brown, old, and partially polished rice usually requires more water for cooking than the new and white rice. One cup of rice usually absorbs one and one-half cups of water.

The length of time for cooking depends upon the quantity cooked. The brown and partially polished rice requires a longer cooking period than the white.

The cooking vessel must be large enough to prevent the water from boiling over and to allow for the swelling of the rice. The lid should fit in order to prevent loss of moisture and of unstable vitamins, besides holding the steam necessary for the proper cooking.

Experiment III.—Effect of cooking rice in a double boiler.

One cup of rice and one and one-half cups water were put in a one-quart pyrex bowl. The bowl was put in a larger kettle containing water already boiling; it was covered and cooked until the rice was thoroughly cooked.

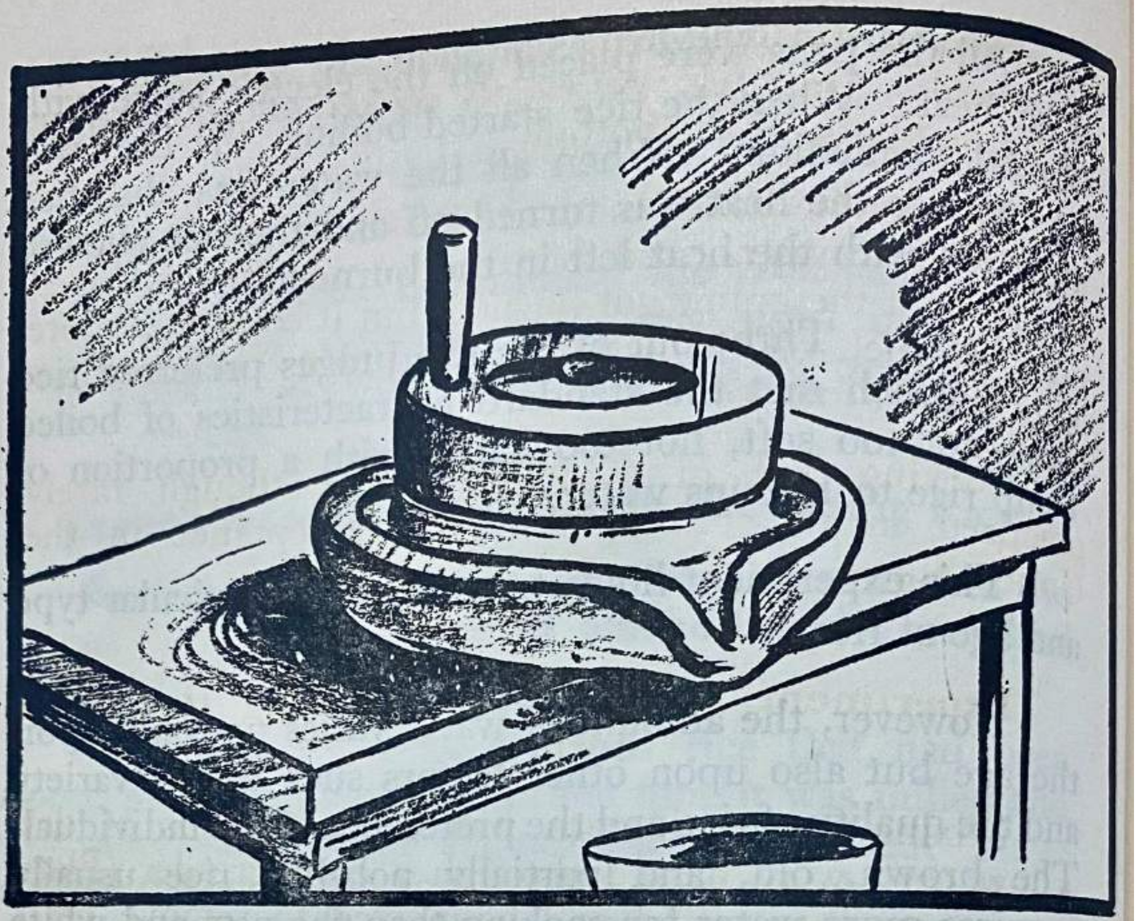

Plate 2.—Rice grinder made of stone

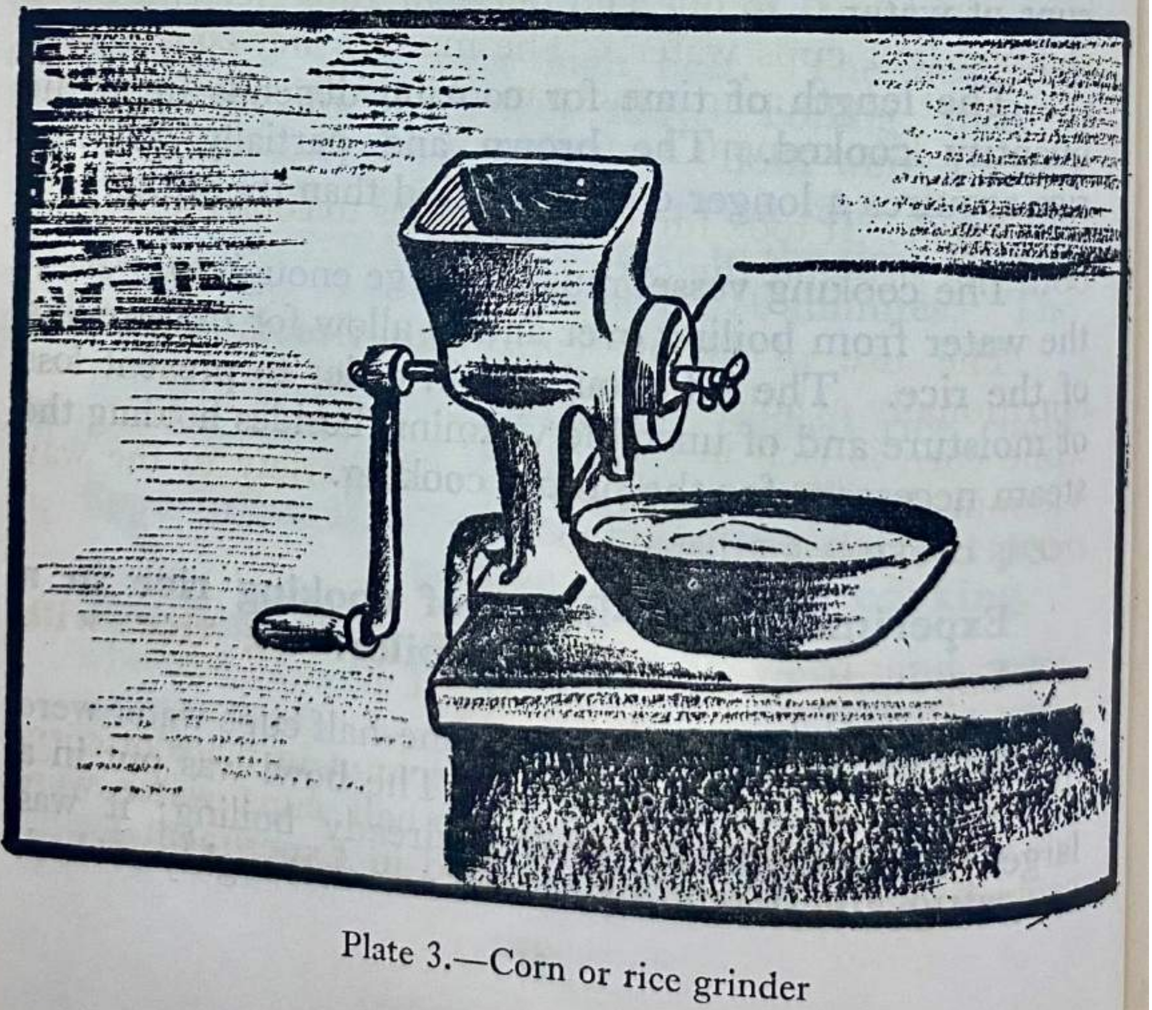

Plate 3.—Corn or rice grinder

Result: It took over one hour to cook the rice thoroughly. The rice was evenly cooked and there were no burned parts at the bottom.

The double boiler method of cooking rice is a good method for it was noticed that the rice was evenly cooked and none of the grains got burned, but it consumes more time and fuel. This method is hard to use in cooking a large amount of rice.

Cooking rice in a double boiler though rarely practised in the Philippines finds acceptance in the United States.

Experiment IV.—Effect of cooking rice with corn.

Mixing rice with corn was tried. Grains of dry yellow corn were passed through a corn grinder (Plate 3). It was then sifted and winnowed to remove both the bran and the hull. One-half cup corn soaked for one hour was added to one and one-half cups rice and three and one-half cups water. The mixture was cooked in a two-quart aluminum saucepan, using the same procedure as in Experiment I.

Result: It took forty-five minutes to cook thoroughly both the rice and the corn.

The use of yellow corn with rice is considered nutritionally wholesome because rice is deficient in fat, while corn is rich in it. The yellow corn is a bearer of Vitamin A. This method also adds variety to the way rice is cooked as a basic food.

Experiment V.—Effect of cooking rice with coconut.

Using one-half cup grated coconut in place of corn, one cup rice, and one and one-half cups water were cooked together using the method in Experiment I.

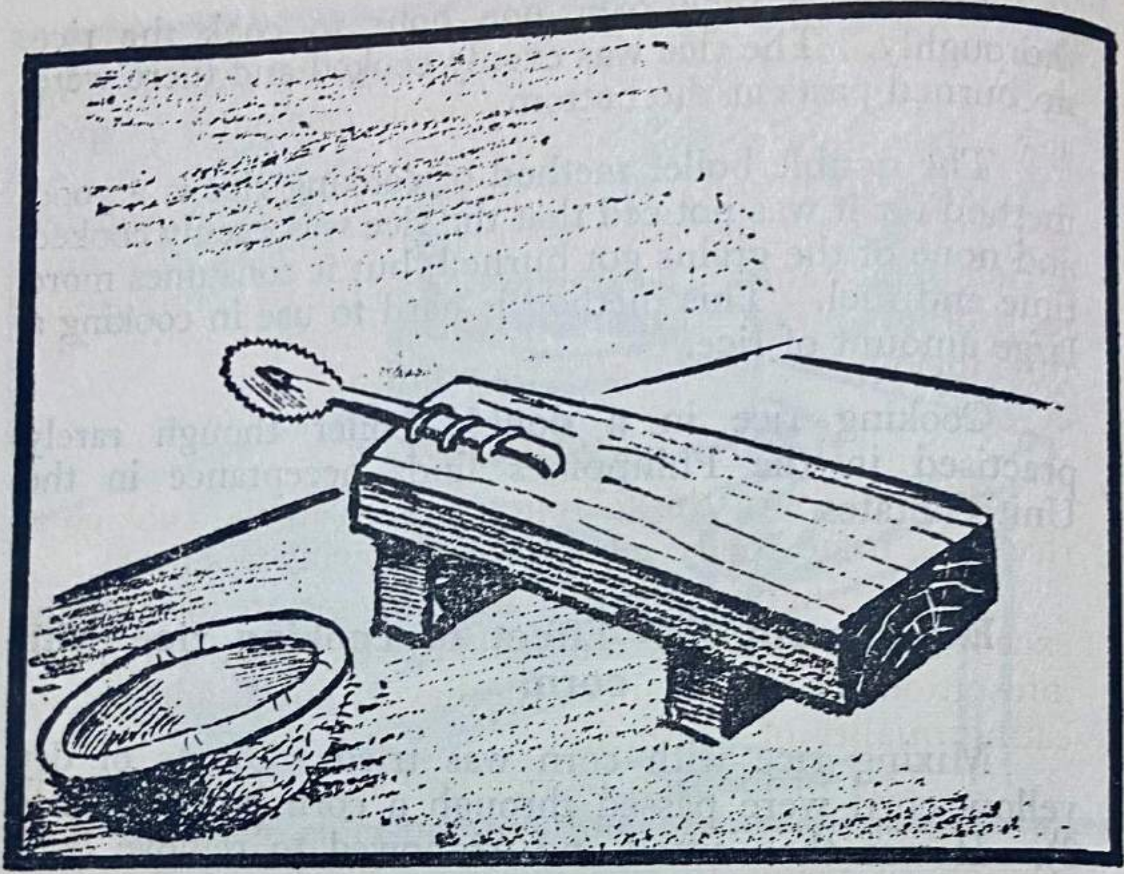

Plate 4.—Old type of coconut grater

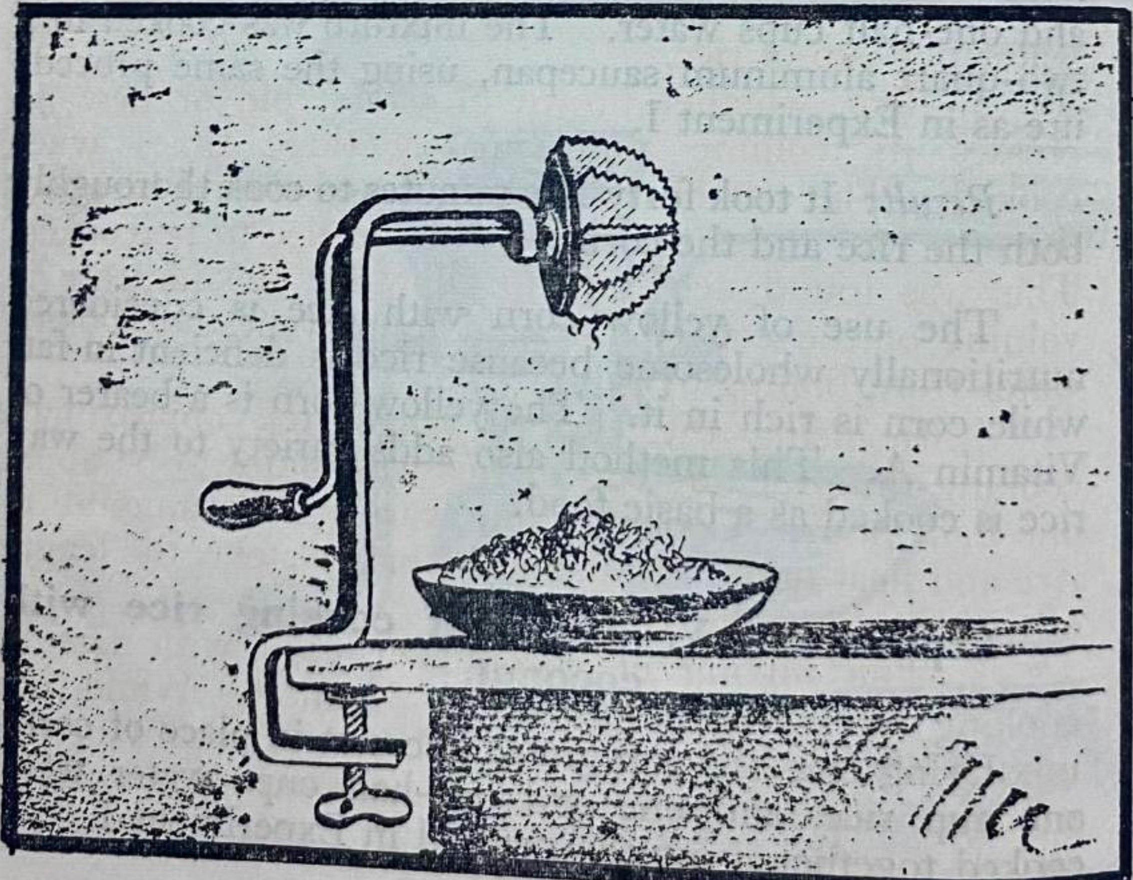

Plate 5.—New type of coconut grater

Result: After thirty-five minutes cooking, including the steaming, the rice was thoroughly cooked. According to the judges the rice with coconut was more tasty than the rice cooked without it.

The inclusion of grated coconut is considered nutritionally wholesome (See Plates 4 and 5). Coconut is rich in fat which is lacking in rice so the two supplement each other. The coconut increases the bulk of the rice, thus making the use of rice economical.

Summary

The study of the techniques used in the cooking of rice as a basic food yielded the following results:

1. Elimination of the washing prior to cooking, except when there is an evidence of mold and insect infestation, does not affect the flavor, color, and general eating quality of white rice.
2. The proportion of rice and water is found to be one cup of rice to one and one-half cups of water. Proportion of water to rice increases when rice has been stored for a long time. Brown and partially polished rice require approximately one and three-fourth cups water per cup of rice.
3. Rice, whether brown or white, old or new increases its volume approximately three times when cooked. The size of the cooking vessel should be about three to four times the volume of the rice to be cooked. This was found necessary to allow for the increase in volume of the cooked rice and to prevent the cooking water from boiling over.
4. In using the electric range, the approximate cooking time for one cup of rice was found to be about one-half hour. Cooking time varies with amount of rice and heat used. In using the native stove, the length of time is about the same.
5. The mixing of coconut or corn with rice in cooking gives fairly palatable products. While the mixing is desirable from the standpoint of improving the nutritive value and stretching the rice supply, its use is strictly a personal preference.

Experiments on the Standardization of Recipes

Determining the reasonable proportions of different ingredients in cooking different recipes.

The prevalence of guessing in the preparation of rice prompted the necessity for standardizing its preparation—determining the approximate quantity of ingredients needed under a given condition.

The experiments resulted in the standardization of formulas and the techniques necessary for preparing recipes in Chapter III in which rice and its by-products are used.

Standardized Ingredients.—In the preparation of rice as food in any form, there are standardized ingredients which should be familiar to everybody interested in rice cookery.

There are two types of rice used—the glutinous, commonly called *malagkit* and the nonglutinous, the ordinary rice commonly used as a basic food. Rice products such as *pinipig* which is prepared from semi-fully matured glutinous rice and rice flour which is prepared by grinding the ordinary rice, either dry or wet, are also included. When the rice is ground wet, the product is called *galapong*.

The consistency of the galapong varies according to the needs of the recipes. This consistency, similar to the consistency of flour for making bread, is classified as doughs and batters. The dough is a mixture of flour and liquid that can be handled and is classified as stiff and soft dough, while the batter is a mixture of flour and liquid that can be poured and is classified as thick and thin batters.

The proportion of liquid and flour for batters and doughs are given as follows:

[redacted]

Thin batter	1 cup liquid to 1 cup flour
Thick batter	1 cup liquid to 2 cups flour
Soft dough	1 cup liquid to 3 cups flour
Stiff dough	1 cup liquid to 4 cups flour

One cup raw rice when ground dry produces one and one-half cups rice flour; so, if raw rice is used the following proportions are found to agree with the above:

Thin batter	1½ cups liquid to 1 cup rice
Thick batter	1½ cups liquid to 2 cups rice
Soft dough	1½ cups liquid to 3 cups rice
Stiff dough	1½ cups liquid to 4 cups rice

The classification of the above mixture is used in the standardized formulas and techniques of the recipes given in this book (Chapter III).

[redacted]

In grinding soaked rice, it is the practice to add water to make the grinding easy; when the recipe calls for stiff dough, the ground rice or galapong is put in a bag and a heavy pressure is applied on it to drain the liquid. Such practice no doubt causes loss of nutrients in rice. This method was not used in this particular study. In the preparation of stiff dough, the rice was soaked in just enough water as needed; then the rice was ground with the water.

The grinder used for grinding rice is the kind commonly sold in hardware stores—corn grinder (Plate 3). When the rice is ground with the amount of water needed for a recipe, some of the water leaks out in the process of grinding. This water is collected or it is replaced with an equivalent amount to provide the right quantity of liquid needed for successful result. The grinder is so adjusted that the result of the ground rice is almost as fine as the wheat flour. If the rice is coarsely ground the result of the quality of the cooked product is unsatisfactory.

"Rice" in some of the recipes of this volume means the ordinary rice commonly used as everyday food and not the glutinous rice.

The "lye" called for in the recipes can be made from a kind of plant called *culitis* which grows wild like grass. The plant is gathered, dried, and burned to get the ash, which is soaked in water and then filtered. The filtering is done by placing the ash mixture in a receptacle containing a hole at the bottom. The hole is provided with a kind of strainer that filters the ash. The filtrate is then concentrated by boiling until it assumes the appearance of a strong black tea infusion. This is stored in bottle and ready for use. Ready-made lye used for cooking purposes may be purchased in some stores.

For the recipes that call for steaming, a round bamboo rack is used (See Plate 7, p. 45). This rack fits into a big carajay with a cover that does not allow the escape of steam. It is available in marketside stores or may be made at home.

The flavoring commonly used in rice recipes is the dry seeds of the *anis* plant. The seeds are available in the market. Before using, it is usually toasted (to develop the aroma) and then crushed fine.

Bijon which is extensively used in cookery is a rice product made from stiff dough. The dough is made to pass by means of pressure through a plate containing many small holes. As the dough passes through the holes, the product which resembles long and round strings, drops directly into the big vat containing boiling water. After a certain length of time, it is drained from water and sold in the market as fresh *bijon*. This fresh *bijon* is preserved by drying and is sold in the market as dry *bijon*. The dishes in which *bijon* is used is known as *pancit*. When the dish contains broth it is called *Pancit con Caldo*; when sauce is added, it is either *Pancit with Palabok* or *Pancit Malabon*. Recipe for these dishes are also included in this book.

Chapter III

RECIPES

As a result of the study, standardized recipes on rice cookery are classified into:

I. Recipes on Rice
  1. as a basic food
  2. ” soups
  3. ” appetizers
  4. ” garnishes
  5. ” entrees or main dishes
  6. ” desserts, breakfast, or snacks

II. Recipes on Rice Bran (a by-product of rice)

I. RICE

Rice as a Basic Food

1. BOILED AND STEAMED RICE

1 *teaspoon salt* (*optional*)
2 *cups rice*
3 *cups water*

Pick over rice and put in a two-quart saucepan or kettle. Add water and cook over high heat until the steam escapes from under the edge of the cover. Stir the rice. Lower the heat and allow to steam until done.

2. RICE AND CORN (Boiled and Steamed)

2 *cups rice*	1 *teaspoon salt*
1 *cup corn* (*ground*)	4½ *cups water*

Soak corn in 2 cups water for at least 1 hour. Boil with the rest of the water. Add the sorted rice when corn is half-cooked and add the salt. Cook in the same way as Boiled and Steamed Rice.

3. RICE AND GRATED COCONUT (Boiled and Steamed)

2 *cups rice*	1 *teaspoon salt*
1 *cup grated coconut*	3 *cups water*

Put together all the ingredients in a kettle and cook in the same way as Boiled and Steamed Rice.

4. Boiled Rice with Milk

2 cups rice
3 cups water
1 *teaspoon salt*
2-3 *cups fresh milk*

Cook the rice in the same way as Boiled and Steamed Rice. When the water has evaporated, add the milk and continue cooking until the rice is thoroughly cooked. Stir rice constantly to keep from burning at the bottom. This will be in the form of gruel. (Good for babies and invalids.)

Rice as Soup

5. Pollo y Arroz con Caldo

1 *chicken, young*
1 *small onion, chopped*
1 *cup rice*
1 *inch ginger*
6-8 *cups water*
2 *cloves garlic, bruised*
2 *stalks green onions*
2 *tablespoons fat*

Kill, dress, draw, and cut the chicken into small pieces; wash and clean well. Pare and slice ginger thin. Saute garlic, ginger, and onion. Add chicken and flavor with 3 tablespoons patis. Add rice and stir well. Add water and stir once in a while until rice and chicken are tender. Add chopped green onions. Serve with patis and calamansi.

6. Goto y Arroz con Caldo

1/2 *kilo goto*
1 *onion, chopped*
1/2 *cup ordinary rice*
1/2 *cup malagkit*
2 *tablespoons fat*
1 *inch cube ginger*
6-8 *cups water*
2 *cloves garlic, pounded*
2 *stalks green onion*

Stew the cleaned goto. When tender cut into small pieces. Pare and slice ginger. Saute garlic, ginger, and onion. Add goto and rice and flavor with 3 tablespoons patis. Stir a while then add water. Boil until rice is cooked. Add chopped onion and serve hot with calamansi and patis.

7. Rice and Tomato Soup

2 cups chopped ripe tomatoes
1 tablespoon fat
1 small onion, chopped
4 cups meat stock
1/4 cup rice
Salt and pepper to taste

Cook together in a saucepan the onion and butter. When onion is brown, add tomatoes. Allow to stew thoroughly. Pass through a strainer or sieve to remove seeds and peeling. Boil the strained tomato with meat stock. Add rice and boil until the rice is thoroughly cooked. Season with salt and pepper to taste. Serve hot.

8. Rice and Ground Meat Soup

1/2 cup rice
1 tablespoon fat
1 cup ground beef
2 cloves garlic, bruised
1 onion
1 cm. ginger, pounded
3-4 cups water

Saute garlic, onion, ginger, and meat. Add rice when meat is quite tender. Add water and boil until rice is thoroughly cooked. Season with patis or salt and pepper.

9. Rice and Shrimp Soup

15 medium size shrimps
1/2 cup rice
3 cups shrimp juice
Salt and pepper to taste

Salt the shrimps and let stand for several hours or overnight. Peel them and cut into pieces. Pound the head and add enough water to make 3 cups. Boil rice and shrimp juice together. When rice is almost cooked add the shrimp meat. Continue cooking until rice is thoroughly cooked. Season with salt and pepper to taste.

10. Pancit con Caldo

1/2 kilo pork, boiled in 2 cups water and cut into strips
2 Chinese sausages, cut into thin slices
3 tablespoons patis
3-4 cups shrimp juice
2 cloves garlic, bruised
Meat of one-half boiled chicken, cut into pieces
1 cup sliced boiled shrimps
1 onion sliced
3 sprig native celery, cut into pieces
1/2 cup shredded native ham

Saute in two tablespoonfuls fat, garlic, onion, shrimp, pork, sausage, ham, and chicken. Add patis or toyo, shrimp juice and meat broth. Add celery and one-fourth kilo bijon. Season with one tablespoon vetsin (Chinese seasoning) and pepper.

11. RICE SOUP WITH CRAB MEAT

2-3 *crabs, fat and alive*	*Patis or salt and pepper to taste*
1/2 *cup rice*	1 *small onion, chopped*
3-4 *cups water*	2 *cloves garlic*
2 *tablespoons fat*	

Boil and open the crabs and separate the meat from the shell. Saute garlic, onion and crab meat. Add rice and stir for a while. Add patis or salt and water. Boil until rice is cooked. Season with pepper before serving.

12. RICE SOUP (A LA CHINESE)

To 6 cups water add one cup rice; cook for about one hour, add one piece dried orange peel, and one dried onion and salt to season. To this may be added one-half pound ground pork or beef or liver thinly sliced. If desired a half pound of fish (ulua) may be also added. Garnish with green onion, cut fine and chopped fine, Chinese preserved melon with sweet taste. Hard-cooked duck eggs cut into halves or quarters and cook for about five minutes garnished with a little shredded ham may also be added. Serve hot in a deep bowl.

13. RICE AND HALAAN SOUP

25-30 *halaan*	2 *tablespoons fat*
1/2 *cup ordinary rice*	1 *cm. cube ginger*
3 *stems green onions*	2-3 *tablespoons patis*

Wash *halaan* well and simmer till partly open. Save the water used to simmer. Separate meat from shell. Saute ginger, add rice, stir a while then add *halaan* water. If too thick add more water until the soup consistency is attained. Serve hot seasoned with pepper and green onion cut into small pieces. Note: *Tulla* or clams may be used instead of *halaan*.

Rice as Appetizers

14. Burong Isda (Fermented Rice with Fish)

- *1 mudfish (medium size)*
- *1 tablespoon angkak (colored red rice)*
- *1 cup rice*
- *2 cups water*

Clean fish and slice into pieces. Salt all sliced fish and allow to stand six hours or overnight. Add water to rice and cook. Remove rice from the cooking vessel and allow to cool. Pound the *angkak* fine and mix with rice. (The *angkak* gives red color to the *buro.*) Mix fish and rice together and place in a clean container (a glass jar) with cover. Let stand for 3 to 5 days or until the mixture smell sour. Before serving, it should be cooked as follows: Saute a clove-bruised garlic in two tablespoons fat. Add *buro* and saute well. If the mixture is too thick, add little water. Serve hot or cold with broiled or fried fish, boiled shrimps or crabs.

15. Balao-Balao na Hipon
(Fermented Rice with Shrimps)

- *1/2 kilo shrimps, small*
- *1 cup rice*
- *2 cups water*
- *2 tablespoons salt*

Salt shrimps and allow to stand overnight. Add water to rice and cook and steam. Remove from the cooking vessel and allow to cool. Mix shrimps to cooked rice and place in a container 3-5 days with cover. Cook in the same way as Burong Isda. It may be colored with little achuete water.

Rice as Garnishes

16. Rice Croquettes

- *1 cup cold cooked rice (packed) (left-over rice will do)*
- *2 slightly beaten eggs*
- *4 tablespoons bread crumbs*
- *1/4 pound fat for frying*
- *Salt and pepper to taste*

Mix rice and seasoning; add 1 egg and 2 tablespoons crumbs. Form into balls about the size of an egg. Dip in one beaten egg, then in bread crumbs. Fry in deep fat until golden brown. Use as a garnish for meat or fish.

17. Rice Fritters

- *1 teaspoon butter, melted*
- *1/2 cup boiled rice (packed)*
- *2 cups rice or wheat flour*
- *1 cup milk*
- *2 eggs*
- *1½ teaspoons baking powder*

Mix boiled rice and flour sifted with baking powder. Add milk, well-beaten eggs and melted butter. Drop by spoonful in deep hot fat. Fry to golden brown. Use as a garnish for meat or fish, or serve with syrup as dessert.

Rice as Entrees or Main Dishes

18. Rice and Cheese Croquettes

1 cup cooked rice
1/2 cup grated cheese
1 egg
1/2 teaspoon salt
Dash pepper
4 tablespoons fine dry bread crumbs
1 egg beaten with 1 tablespoon water
Deep fat for frying

Combine rice, cheese, egg, salt, and pepper. Chill. Shape in balls, roll in crumbs, then in egg mixture, then in crumbs again. Fry until golden brown in deep hot fat. Drain and serve hot with tart jelly or with tomato sauce.

19. Arroz a la Paella

1 small chicken (optional)
1 oxford sausage (sliced)
1/2 pound pork (tender loin)
3 big ripe tomatoes, minced
1 small can pimiento
2 cloves garlic, bruised
1 small onion, chopped
1 bay leaf
2 hard-cooked eggs
6 crabs, boiled (alimasag)
10 medium size shrimps, boiled and shelled
3 cups rice, cooked
1 sprig parsley
1 tablespoon paminton
2 cups chicken broth
Salt and pepper to taste
20 clams, boiled and shelled

Dress, clean, and boil chicken until quite tender. Separate the meat from the bones and cut the meat into pieces. Saute garlic, onion, tomatoes, chicken, pork, and sausage. Add seasoning, bay leaf and paminton. Cook until the pork is tender. Add rice and stir well. If too dry, add a little of the chicken broth. Add clams, boiled shrimps, and crab meat. Transfer to a platter and garnish with peas, pimiento, cut into strips and sliced or chopped hard-cooked eggs.

20. Arroz a la Cubana

1/2 kilo ground beef
1 onion, chopped
1 clove garlic, bruised
2 hard-cooked eggs
Salt and pepper to taste
1/2 cup water
1 tablespoon fat
6 saba bananas
1/2 cup bread crumbs, dry

Saute garlic, onion, and meat. Add water and cook until meat is tender. Add bread crumbs. Season with salt and pepper. Slice bananas, lengthwise and fry. Place cooked meat in the center of a platter. Arrange a border of cooked rice around the meat. Use fried bananas and hard-cooked eggs for garnishing.

21. Jambalaya Shrimp

2 tablespoons fat
1 tablespoon flour
1 cup cooked and chopped ham
1 cup cooked shrimps
1 can tomato sauce
1 green pepper, chopped
1 tablespoon parsley, minced
1 teaspoon Worcestershire sauce
1 red pepper, chopped
1½ cups water
1 cup uncooked rice
1 onion, sliced
Salt and pepper to taste

Melt fat and add flour, stirring until smooth and slightly brown. Add chopped ham, shrimp, and tomato sauce. Cook a few minutes. Add onions, parsley, peppers, seasoning, and water. Simmer for ten minutes. Add rice and boil until dry, lifting the mixture from the bottom of the cooking vessel with a turner from time to time. Keep covered during the steaming. Serve in a platter garnished with hard-cooked egg as entree. (Meat or fish may be used instead of shrimps.)

22. Chicken Roast, Stuffed with Rice

1 big chicken (roaster)
1 cup rice
1/2 cup malagkit rice
2 big ripe tomatoes, chopped
1 small can peas
1 small box raisins
1 tablespoon fat
1 small onion, chopped
1 clove garlic, bruised
1 bay leaf
2 tablespoons paminton or turmeric
1½ cups water
Salt and pepper to taste

Prepare chicken for stuffing. Clean very well and rub the inside and outside with salt and pepper. Saute garlic, onion, and tomatoes. Add bay leaf, paminton, and rice. Saute well and add water. Boil until water is dry. Stir while boiling to keep from burning. Lower heat and allow to steam. When done mix raisins, peas, and seasoning. Use this mixture to stuff the chicken. Rub chicken with butter or lard before baking. Truss. Bake for 2 hours in moderate oven (350°F) or until chicken is tender.

23. Creamed Shrimps in Rice Ring

1 *cup rice*
1 *teaspoon salt*
2 *cups water*
3 *tablespoons fat*
3 *tablespoons flour*
1 *hard-cooked egg*
1 *cup shrimp juice*
1/2 *cup milk*
1/2 *teaspoon paprika*
1½ *cups boiled shrimps, shelled and sliced*
1 *teaspoon lemon juice*
1 *sprig parsley*

Cook rice in the usual way with water and salt. Melt fat in a saucepan or frying pan. Add flour and blend well. Add liquid (milk and shrimp juice). Cook, stirring constantly until thick and smooth. Add prepared shrimps, seasoned with lemon juice. Heat thoroughly. For serving, pack rice into a lightly greased ring mold. Turn rice ring on to a hot platter or serving dish and fill center with creamed mixture. Garnish with chopped hard-cooked egg and parsely. (Crab meat may be used to substitute shrimps.)

24. Arroz a la Valenciana

1 *young chicken*
1 *can tomato sauce or paste*
2 *tablespoons fat*
2-3 *cups rice, boiled*
1 *chorizo, bilbao*
2 *green and red pepper*
2 *tablespoons paminton or turmeric*
2 *stalks green onion*
1 *onion, chopped*
1 *clove garlic, bruised*
1 *bay leaf*
1 *small box raisins*
1 *small can peas*

Kill and dress chicken and cut into small pieces. Clean well and boil until half-cooked. Separate the meat from the bones. Saute garlic, onion, and chicken meat. Add sausage cut into pieces, bay leaf, paminton, tomato sauce, and green and red pepper cut into strips. Then add boiled rice, raisins, and peas. Season with salt and pepper to taste. Transfer to a platter and decorate the top with coarsely chopped green onion and slices of hard-cooked eggs.

25. Arroz a la Filipina

1 *medium chicken, dressed and cut into small pieces*
4 *cloves garlic, pounded*
1 *cup ordinary rice*
1 *onion, sliced*
3 *medium ripe tomatoes, chopped*
2 *tablespoons yellow ginger powder or paminton*
1 *tablespoon salt*
1 *green and* 1 *red bell pepper, cut into strips*
1 *small package raisin*
1 *cup malagkit rice*

Saute garlic, onion, tomato, and chicken. Cover and cook until quite tender, over low heat, add water as it dries. Season with salt and pepper. Add the yellow ginger powder and the green and red pepper. Add the boiled rice (previously cooked with two and one-half cups water). Mix well and turn over from time to time to prevent burning at the bottom, add raisin and mix well. Turn on a platter and garnish with slices of hard-cooked egg and green onions, cut fine.

26. Arroz con Pata

1 oxtail, cut into pieces
3 cloves garlic, bruised
1 onion, sliced
1 hard-cooked egg
2 pieces pimiento
1 cup malagkit rice
3 ripe tomatoes
1 laurel leaf
1/2 teaspoon paminton
1 Spanish sausage
2 tablespoons cooking oil

Stew the oxtail until tender. Save the broth. Saute the oxtail with garlic, onion, tomatoes and half of the sausage. Add rice and the oxtail broth enough to cook the rice. Add paminton and laurel leaf. Transfer to a platter and garnish the top with slices of hard-cooked egg, pimiento and the remaining sausage and parsley.

27. Curried Shrimps

2 pounds shelled shrimps
1 tablespoon fat
1 tablespoon flour
1 small onion
1 bay leaf (laurel)
1 tablespoon butter
1 teaspoon curry
3 sprigs parsley

Heat fat in a saucepan. Add flour and stir until slightly brown. Add the minced onion and brown slightly. Add the shrimps and fry until pink in color. Add 2 cups hot water, the curry powder, parsley and butter. Stew for twenty minutes. Serve in a platter with border of tablespoons hot rice. If curry is not desired, a cup of tomato, chopped, may be added after the shrimps have been fried.

28. Creole Jambalaya

1½ cups rice, washed
1 pound fresh pork
2 sausages
1 onion, chopped
1 clove garlic, bruised
1 tablespoon butter
1 sliced ham
1/2 red pepper (bell)
1 large ripe tomato, chopped
3 sprigs parsely
1 bay leaf (laurel)

Cut pork and ham in very small pieces, and sausage in rather larger slices. Brown, garlic, onion, and pork in butter or margarine. Add ham and other ingredients. Then add the sausage and 3-4 cups hot water or meat stock. Let boil for 10 minutes. Add the rice and boil for half an hour until dry. Cover with banana leaf and steam. Serve in a platter. Garnish the top with slices of hard-cooked egg.

29. Shrimps Pilau

4 slices bacon
1 cup washed rice
1½ cups shelled cooked shrimps
1 small onion
2 cups canned tomatoes
Salt and pepper to taste

Cut bacon in squares and fry till crisp. Remove bacon from pan. Put onion finely chopped, and brown in bacon fat. Add tomatoes, rice, and salt; transfer to a double boiler and steam for 45 minutes. Stir in shrimps mixture. Turn the whole mixture into a baking dish. Bake in moderate oven about 15 minutes. Serve with white sauce.

30. Bringe

1 small chicken
1/4 kilo lean pork
3/4 cup vinegar
1 tablespoon soy sauce
1 teaspoon pepper
4 cloves garlic, minced
1 cup rice, elonelon
1 cup malagkit rice
3 cups coconut milk
3 teaspoons salt
1/2 cup yellow ginger juice
1 small box raisin
1 small can peas
1 duck egg, hard-cooked
Green onion, finely cut

Dress and cut the chicken and pork into small pieces. Add vinegar, pepper, and salt. Cook as adobo is cooked just until the pork and chicken are quite tender. Season with soy sauce. Add rinsed rice and stir. Add coconut milk and ginger juice. Stir until quite dry. Allow to steam over low heat. Cover the carajay with banana leaf during steaming. Add raisin and stir. Turn over twice or three times to keep the bottom from getting burned. Transfer to a platter and garnish with slices of hard-cooked egg, green peas and green onion, cut fine.

31. Chicken and Rice

1/2 cup rice
1 egg
1½ cups milk
1 tablespoon butter
Salt and pepper to taste

Boil and steam the rice with the milk. Add butter and season with salt and pepper. Mix well. Spread as lining in small custard cups. Have some boiled chicken meat chopped. Season with salt and pepper to taste. Moisten with gravy or warm milk. Fill the custard cups lined with rice and cover the top with rice. Bake in a pan of boiling water in a moderate oven for 20 minutes. Turn on plates to be served individually. Garnish with hard-cooked eggs, chopped parsley and surround with white sauce.

32. Chinese Fried Rice

Cut a few slices of bacon or ham into small pieces. Fry until slightly brown. Remove from the frying pan and fry 3 or 4 cups cold cooked rice, (left over will do) in the pan. Add 2 or 3 eggs to the rice, mix well and fry all together until eggs are well set, turning constantly. Add the fried bacon and ham and season with 3 tablespoons soy sauce and a little pepper. Mix thoroughly.

Note: Chicken, beef, pork, shrimp or crab may substitute bacon and ham; a little cooking oil added. Any left-over meats cut up in small pieces can be utilized in the same manner and will make an inexpensive but very appetizing dish.

33. Shrimp Fried Rice

Wash and shell one pound fresh shrimps. Split the back. Fry in cooking oil to half done. Add one medium size onion, chopped fine, one-half cup white mushrooms, one stalk chopped celery. Fry about five minutes. Add four or five cups cooked rice stirring well with spoon or fork. Season with three tablespoon soy sauce, one teaspoon salt and a dash of pepper. Break two eggs into the rice, mix and cook until eggs are firm. Serve hot.

34. PANCIT GUISADO

1/4 kilo pork with fat
1/4 kilo shrimps, shelled and sliced
2 cakes toqua, cut into pieces
1-2 Chinese sausages, sliced thin
2 tablespoons achuete seeds
6 stalks green onion
1/2 kilo dry bijon
1 big onion, sliced
2 cloves garlic, bruised
1 hard-cooked egg
1 head garlic, peeled and sliced thin crosswise

Separate the fat from the lean meat of the pork. Boil the lean meat, then cut into pieces. Cut the fat into pieces and fry in its own lard. Fry in the lard the bean cake. Remove from the pan and fry the sliced garlic until brown and crisp. Remove also from the pan. Saute in the remaining fat, the bruised garlic, onion, sausage, and boiled meat. Add celery and bijon, previously soaked in cold water. Color with achuete water. Add shrimp juice and stir well until bijon is cooked. Season with salt and pepper to taste. Transfer to a plate or platter and garnish the top with fried toqua, fried garlic, green onion, sicharon, and chopped hard-cooked egg. Serve with toyo or patis and calamansi juice.

35. PANCIT WITH PALABOK

6 tinapa, flaked and toasted
1/2 kilo shrimps, shelled and sliced
2-3 cups shrimp juice
1 cup shelled oysters
5 stalks green celery
4 tablespoons fat
2 onions, sliced
1 head garlic, peeled and sliced
2 hard-cooked eggs
1 cup sicharon, chopped
2 tablespoons achuete seeds
1/2 kilo fresh or dried bijon
4 stalks green onion
2 cloves garlic, bruised

Put fat in a carajay, fry the sliced garlic until brown and crisp. Remove from the fat. Saute bruised garlic, onions, shrimps, oysters, and celery that has been cut into pieces. Soak achuete in half-cup water; rub with fingers until water is well colored. Pour achuete water into the shrimp mixture. Make medium sauce out of shrimp juice using cornstarch, rice flour or wheat flour for thickening. Color the sauce also with achuete water, and season with salt and pepper. To make sauce richer add one or two slightly beaten eggs after removing from the fire. Stir well. Chopped roasted peanuts (if desired) may also be added.

Soak *bijon* if dry in cold water, then in boiling water for a few minutes; transfer to a platter and pour the sauce over it. Garnish the top with shrimps mixture, fried garlic, chopped sicharon, roasted tinapa, hard-cooked eggs, chopped green onions, and serve with calamansi, patis, and powdered pepper.

36. Economical Pancit

1/5 kilo pork, boiled and sliced
1/5 kilo shelled shrimps
2 cups shrimps juice
1/4 kilo bijon
1 banana blossom (butuhan)
1 onion, sliced
2 cloves garlic, bruised
2 tablespoons fat
Salt and pepper to taste

Remove the outer covering of the banana blossom and slice thin crosswise, the soft part. Drop in salted water, then mash and squeeze out the juice. Saute garlic, onion, shrimp, and pork. Add banana blossom, bijon, and shrimp juice, extracted from the head of shrimps. Cook until banana blossom is tender. Season with salt and pepper.

Rice as Dessert, Breakfast, Merienda or Snacks

37. Bicho-Bicho

2 cups rice
3 tablespoons purico
4-6 egg yolks
1½ teaspoon salt

Soak the rice in 2½ cups water to soften. Grind fine. Put purico in a carajay when hot, pour the ground rice and salt. Stir until thick like a stiff dough. Remove from the fire and allow to cool a little. Knead the egg yolks into the rice dough mixture thoroughly. Roll a portion like the size of a small candle on greased board. Cut into pieces about one centimeter long. Roll each piece on the back of the tines of a fork with the thumb of the right hand. Fry in deep fat until golden brown. Immerse in syrup made of 1 cup sugar and 1/4 cup water. Boil until it spins thread. Stir so all the pieces will be coated with the syrup.

38. Guinataan Rice with Mongo

1 cup malagkit rice
1/4 cup mongo
A pinch of salt
5 cups diluted coco milk
1 cup rich coco milk from two coconuts

Roast mongo until dark brown. Break the grains by rolling with a rolling pin or a pestle. Separate the hull by winnowing. Mix the *malagkit* with mongo and boil with diluted coco milk, stirring once in a while to keep from burning at the bottom. Add sugar and salt when rice is cooked. Put a tablespoon of rich coco milk on top of each serving.

39. Palitao

2 cups malagkit rice
1 small coconut, grated
1 cup sugar, brown
1/2 cup roasted linga

Soak the *malagkit* for at least four hours and grind to a stiff dough. Form into small balls and flatten with a finger. Drop in boiling water. When they float, skim and drop in cold water to prevent from sticking to each other. Drain and serve with grated coconut, brown sugar, and pounded roasted linga.

40. Ukoy with Egg

Make thin batter of
1 cup rice flour (*old rice*)
1 teaspoon salt
2 teaspoons baking powder
1/5 kilo boiled shrimps (*small*)
2 eggs, well beaten
1 segment garlic (*minced*)
1 cup shrimp juice (*from head of shrimps*)

Heat in a carajay one-half pound fat. When hot pour one-fourth cup of the mixture and gather the particles together with a spoon or turner. Put two or three boiled shrimps on top. When brown and crisp, remove with a shimmer. Drain and serve plain or with vinegar and garlic.

41. SINUKMANI

3 *cups malagkit rice*
3 *cups water, hot*
2-3 *cups sugar*
3 *coconuts*
1 *teaspoon salt*
A pinch of roasted anis

Boil rice in the usual way but line the pot with three or four pandan leaves. Grate coconuts and squeeze out the milk without adding water. Extract three more times by adding one cup hot water for each extraction. Boil diluted coco milk with sugar. When beginning to get thick add undiluted coco milk and boil until beginning to curdle. Add *anis*, then add the rice and continue cooking by stirring constantly over slow fire until the mixture is very thick and does not stick to the side of the cooking vessel. Transfer to a receptacle lined with banana leaf. Serve hot or cold in slices.

42. KALAMAY PINIPIG

3 *cups pinipig*
1½ *cups sugar*
2½ *cups coco milk from one coconut*
A pinch of toasted anis

Soak the *pinipig* after cleaning in one cup coco milk for 30 minutes or until soft. Boil the rest of the coco milk with sugar. When the syrup is thick, add *pinipig*. Stir while cooking until thick and sticky. Place in a receptacle lined with banana leaf. Serve with toasted coconut, made as follows: Toast one cup of the coconut from which the milk has been extracted, with two-thirds cup sugar in a frying pan. Stir continuously until brown and crisp.

43. SUMAN PINIPIG WITH LATIK

4 *cups pinipig, cleaned*
2 *cups sugar*
1/2 *teaspoon salt*
3 *cups coco milk*
A pinch of toasted anis

Soak *pinipig* in one and one-half cups coco milk for half an hour or until soft. Boil the rest of the coco milk with the sugar. When syrup is thick add *pinipig*, salt, and *anis.* Stir and cook until thick. Remove from fire and allow to cool. (See procedure for latik p. 54.) Roll and wrap a portion of this mixture in pieces of banana leaf dotted with latik and fold the two ends under. Put together in pair and tie.

44. BONBONES DE ARROZ

1 cup flour
1 cup cooked rice
2 eggs
1/2 teaspoon salt
1/2 cup sugar
1/3 cup milk
flavoring—vanilla or lemon extract

Shift flour, measure and add sugar. Beat eggs well and add milk. Add to sugar and flour mixture and stir well. Add the cooked rice, salt and flavoring. Drop by spoonful in hot fat. Fry until golden brown. Serve hot.

45. ESPASOL NO. I

1½ cups cooked rice, malagkit (ground fine)
2½ cups sugar
2½ cups toasted malagkit rice (powdered)
1 cup coco milk

Make syrup of the coco milk. When quite thick add the ground cooked rice. Then add the powdered-toasted rice little at a time until the mixture is dry enough to roll. Transfer to a board sprinkled generously with powdered *malagkit.* Roll with the rolling pin and cut into round or any desired shape. Sprinkle with rice powder to keep from sticking.

46. ESPASOL NO. II

2½ cups coco milk
2½ cups sugar
1/4 teaspoon toasted anis
2 cups grated cassava
3 cups ground toasted malagkit rice

Boil coco milk and sugar. Add grated cassava and cook for a while. Then add ground rice little by little until the mixture is thick enough to roll and does not stick to the side of cooking vessel. Roll on board sprinkled with the ground rice. Cut into desired shape.

47. ESPASOL NO. III

3 cups finely ground roasted pinipig or malagkit rice, also roasted
2½ cups sugar
2 cups coco milk
1 cup chopped candied condol or grated young coconut (optional)
A pinch of toasted anis

Boil coco milk and sugar. When quite thick add chopped condol or young coconut. Then add powdered rice little by little until thick enough to roll. Transfer to a board sprinkled with powdered rice. Roll and cut into desired shape.

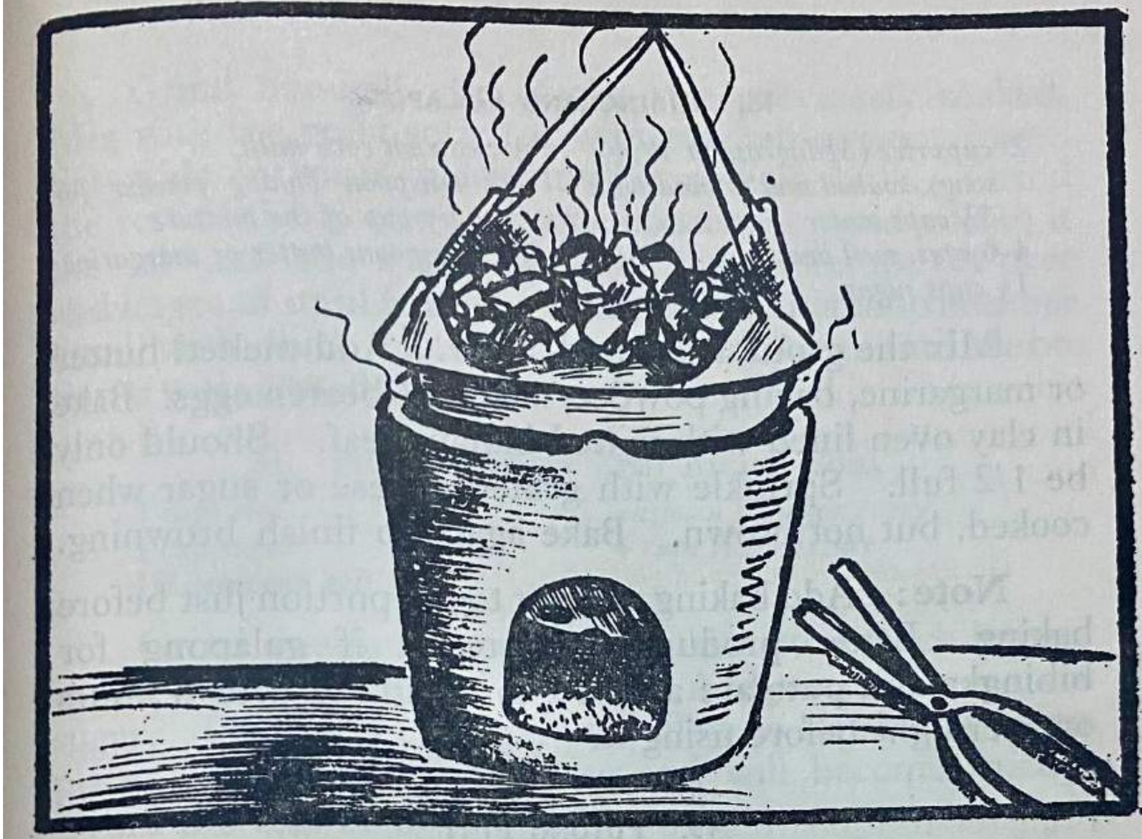

Plate 6.—Oven for baking bibingka

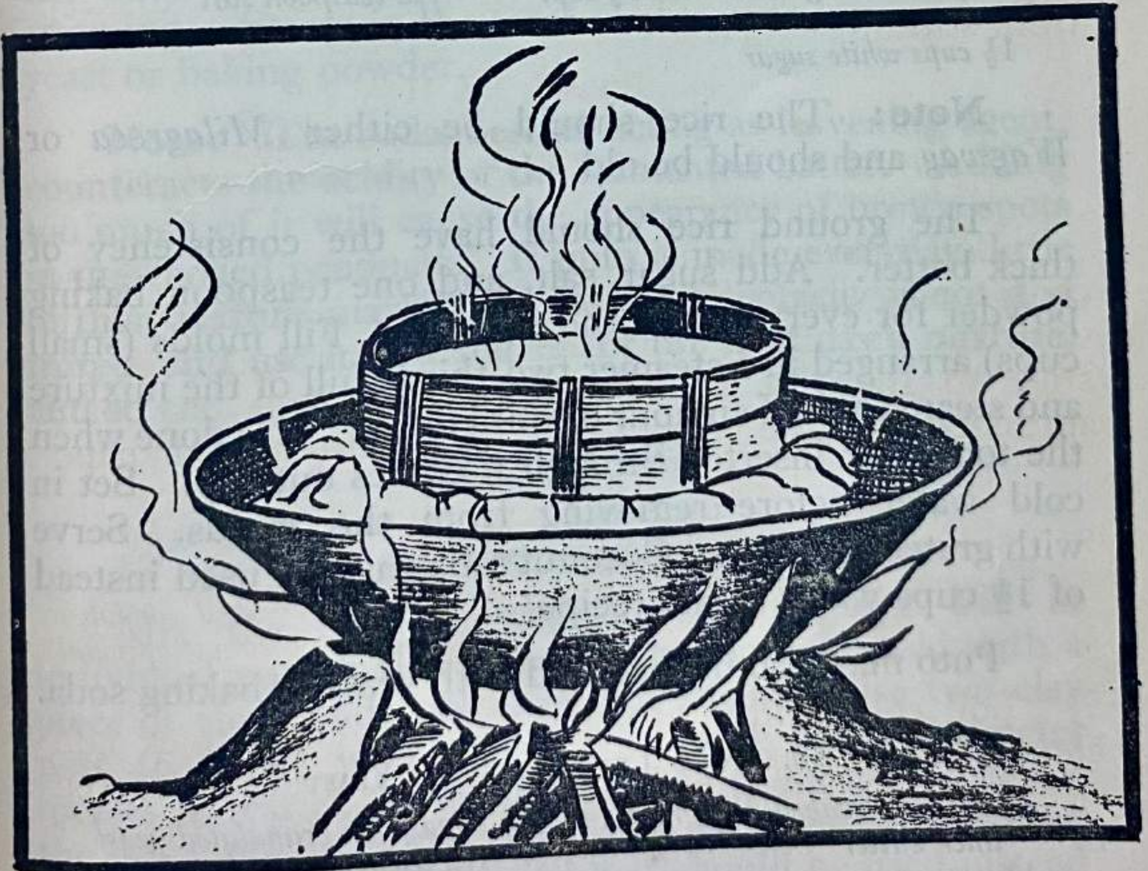

Plate 7.—Steamer (lansungan) for steaming *puto* or *cuchinta*. A tight-fitting cover should be provided for.

48. BIBINGKANG GALAPONG

2 cups rice (Milagrosa or Wagwag), soaked and ground with 1½ cups water
4-6 eggs, well beaten
1½ cups sugar
1 cup rich coco milk
1/2 teaspoon baking powder for every cup of the mixture
3 tablespoons butter or margarine

Mix the ground rice and sugar. Add melted butter or margarine, baking powder, and well-beaten eggs. Bake in clay oven lined with wilted banana leaf. Should only be 1/2 full. Sprinkle with grated cheese or sugar when cooked, but not brown. Bake again to finish browning.

Note: Add baking powder to the portion just before baking. Better products will result if galapong for bibingka and puto are allowed to stand for 6 to 8 hours or overnight before using it.

49. PUTONG PUTI

2 cups rice (Milagrosa or Wagwag), soaked and ground with 2½ cups water
1½ cups white sugar
3 teaspoons baking powder
1/2 teaspoon salt

Note: The rice should be either *Milagrosa* or *Wagwag* and should be old.

The ground rice should have the consistency of thick batter. Add sugar, salt, and one teaspoon baking powder for every cup of the mixture. Fill molds (small cups) arranged in a steamer two-thirds full of the mixture and steam for half an hour or until done. It is done when the toothpick inserted through it comes out dry. Set in cold water before removing from the molds. Serve with grated coconut. Coconut milk may be used instead of 1½ cups water in the recipe.

Puto may also be leavened with yeast or baking soda.

50. PUTO LEAVENED WITH YEAST

3 cups rice, soaked and ground to thick batter
1½ cups sugar
1 teaspoon granulated yeast
1/2 teaspoon salt
1 grated coconut

Grind one-half cup of the rice previously soaked. Mix with the yeast softened with two tablespoons water. Set aside in warm place until double in bulk. Grind the rest of the rice to the same consistency and add to it the salt and the sugar and the yeast mixture. Cover and let stand until foamy. Pour into the bamboo steamer lined with thick cloth. Cover and steam until done. Serve with grated coconut.

51. Puto Leavened with Baking Soda

3 cups rice
1 cup sugar
1/2 teaspoon salt
1 teaspoon soda for every 4 cups rice mixture

Grind one-fourth cup of the rice to a thick batter, two or three days ahead of time. Add one-half teaspoon sugar. Place in a clean jar and allow to stand in a warm place. The mixture will rise and will become foamy. Grind the rest of the rice to a thick batter and add to it the salt, sugar, and the fermented batter. Let stand for ten hours or overnight. Add the baking soda before steaming. Steam in the same way as puto leavened with yeast or baking powder.

Note: The soda, besides acting as leavening agent, counteracts the acidity of the fermented batter. Adding too much of it will cause the appearance of brown spots in the cooked products. If puto is made everyday, little of this mixture may be left in the receptacle where it is mixed, and use it as a starter for the next day's mixture, and so on.

52. Puto Seco

1/2 ganta rice flour
1/2 pound melted margarine
1 liter sugar
5 egg yolks

Mix the above ingredients thoroughly. Fill in individual puto molds (wooden) cover each mold with a piece of cloth and cook over hot steam. Use two clay pots (*balanga*) with fitting wire with one centimeter messes or less at the opening of one of the pots and use the other pot to cover, placing in an inverted position. If a regular steamer is available it should be used instead of the pots. Arrange the mold in the steamer and steam for one or two minutes to harden.

Remove from the molds carefully and transfer to baking sheets and bake in a moderate oven until light brown. Wrap in typewriting paper, ten pieces in a pack. Store in new clay pots and cover the opening with another typewriting paper, cut round to cover the pot. Paste the cover.

53. Bibingkang Tangway

2 *cups rice (Milagrosa or Wag-wag)*
1½ *cups sugar*
2 *eggs*
2 *tablespoons butter or margarine*
1 *cup rich coconut milk or evaporated milk*
1 to 1½ *cups grated young coconut (malakanin)*

Soak rice in 1½ cups water for 6 hours after washing. Grind very fine. Add sugar, grated coconut, butter, and well-beaten eggs. Bake in a clay oven lined with wilted banana leaf. The oven should be filled at a time 1/3 full. When partly baked, brush the top with rich coconut milk and sprinkle a little brown sugar and bake again until golden brown. Serve hot with tea or coffee.

54. Cuchinta

1 *cup rice*
1 *cup brown sugar (packed)*
1 *teaspoon lye*
1 *small coconut*

Soak the rice in two cups water for at least four hours and grind very fine. Make thin syrup with one cup water and sugar. Mix together the ground rice, cold syrup, and lye. Fill molds (small cups) arranged in a steamer. Steam for fifteen minutes. Set the molds in cold water before unmolding them. Serve with grated coconut.

55. Maja with Corn

1 *cup rice*
2 *cups grated young corn*
1½ *cups sugar*
5 *cups coco milk*
A pinch of salt

Soak rice in one and one-half cups water and grind. Grind also the corn. Mix rice, corn, coco milk, sugar, and salt. Strain. Boil until thick and smooth over medium heat stirring constantly, about half an hour.

Transfer to greased enamel plates and allow to cool. Serve in slices with toasted coconut. See recipe Kalamay Pinipig, No. 42.

56. MAJA BLANCA

1 cup rice	*3-4 cups coco milk (2 coconuts)*
1 cup sugar	*A pinch of powdered toasted anis*

Soak rice in one and one-half cups water for at least four hours and grind very fine. To it add coco milk, sugar, and *anis*. Boil until thick and smooth over medium heat about 30 minutes stirring constantly. Place in greased enamel plates and allow to cool. Serve in slices with toasted coconut. See recipe Kalamay Pinipig, No. 42.

57. MAJA WITH UBI

1/2 kilo ubi (Cebu)	*2½ cups sugar*
1 cup rice	*A pinch of powdered anis*
5 cups coco milk (2 coconuts)	

Pare ubi, slice thin, cover with water and boil until soft. Mash well and strain through a coarse strainer. Soak and grind rice with one and one-half cups water. Mix ground rice, ubi, sugar, coco milk, and *anis*. Cook over medium heat until thick and smooth (about one and one-half hours). Transfer to a greased enamel plate and allow to cool. Serve in slices with toasted coconut. See procedure for latik p. 54.

58. LECHE CREMA

1 can evaporated milk (big size)	*1 cup rice flour*
4-6 eggs (slightly beaten)	*1 cup water*
1 cup sugar	

Mix flour and water. Cook until starch is partly gelatinized. Add milk. Flavor with calamansi peeling, chopped fine or lemon rind. Cook mixture in a double boiler stirring constantly until thick and smooth. Add sugar and slightly beaten eggs. Cook for about 5 minutes longer. Pour in a greased platter and allow to cool. Sprinkle sugar on top and pass over it a very hot native turner to caramelize the sugar. (Coco milk may be used instead of evaporated milk.)

59. TAMALES

- *2 cups toasted rice, soaked in 1½ cups water and ground*
- *1/2 cup brown sugar*
- *1 cup rich coco milk*
- *4 cups diluted coco milk from 2 coconuts*
- *2 duck eggs, hard-cooked*
- *1/2 kilo pork, boiled and sliced*
- *2 tablespoons achuete seeds, soaked in 1/2 cup water*
- *2 tablespoons salt*
- *1 tablespoon pepper*
- *1 cup finely chopped roasted peanuts*

Mix ground rice, diluted coconut milk, sugar, salt, pepper, and achuete water. Cook until smooth and thick, stirring constantly. Add the rich coco milk and stir well until smooth. Add chopped peanuts before removing from fire. Prepare wilted banana leaves by cutting into pieces about ten inches wide. Put two pieces together. Place one kitchen spoonful of the mixture in the center of the leaf. Place a small sliced pork and a sliced egg on top. Then wrap in the form of a square. Wrap again with a narrow piece of banana leaf and tie around the four sides. Boil water in a cooking vessel that will accommodate all the *tamales.* Drop *tamales* when the water is already boiling, cover and let boil for half hour. Transfer to a tray or basket and allow to cool before serving.

Variation: 1/2 cup of the rice may be left untoasted; ground and cook separately with part of the diluted coconut milk, sugar, salt, and pepper; adding a portion of it about one teaspoon to the cooked toasted rice mixture when wrapping with banana leaves.

60. PUTONG TAMALES

Prepare putong puti (Recipe No. 49). Instead of molding the puto in small cups, use gelatin molds with holes in the center. After unmolding the puto, fill the center with cooked mixture of tamales and garnish the top with some sliced meat, chicken or ham, and chopped hard-cooked eggs.

61. BUBOTO

The same ingredients as in *tamales* except that peanut is not added. Shrimps are used instead of meat and eggs; the shrimp juice is used in place of one half of the coco milk.

62. PUTO MAYA

2 cups malagkit rice
2-3 cups water
1 cup white sugar
1 small coconut

Add water to the rice and cook as "Rice Cooked and Steamed." Mold each serving in small cup and unmold into saucer. Place sugar and grated coconut on top of each serving.

63. BAKED BUCHI

1 cup mongo, boiled thick, and washed
2 cups malagkit rice
1 cup sugar (brown)
1/2 cup mashed boiled gabi (optional)

Soak rice overnight and grind to stiff dough. Pare, boil, and mash gabi and pass through a coarse strainer. Mix rice dough and mashed gabi. Add the sugar to the boiled mongo. Use rice and gabi mixture as wrapper for the mongo. Form into balls the size of an egg and press down to about one and one-half centimeter thick. Arrange in a baking pan lined with banana leaf. Brush the top with thick coco milk and melted butter. Bake in native oven until golden brown, or fry in deep fat. Serve hot.

64. RICE CUSTARD

1 cup boiled rice
4 eggs
2 cups milk
1 cup sugar
1 teaspoon butter
1/2 teaspoon finely chopped calamansi peeling

Beat eggs, sugar, and butter together. Pass boiled rice through a meat grinder and add to the egg mixture. Add milk and stir well. Add flavoring. Pour in a greased mold sprinkled with sugar. Steam in the oven until brown and firm. Serve cold.

65. CHAMPORADO

1 cup rice, ordinary or malagkit
3-4 cups water
1½ cups sugar
2 chocolate cakes
A pinch of salt

Add water to the rice and boil until rice is soft. Melt chocolate with rice water and add it to the rice. Add sugar to suit the taste and a pinch of salt. Serve with *tapa* (dried meat) or fried or broiled fish. Milk may be added to the champorado for each serving.

66. Boiled Rice with Tajuri (Bean Curd)

1/2 cup rice
2-3 cups water
1 big cake tajuri

Add water to rice and boil until soft. Mash the *tajuri* and add to the boiling rice. Serve hot. (Good for invalids.)

67. Sapin-Sapin with Ubi Filling
(Three-layer maja)

2 cups rice, soaked in one and one-half cups water and ground
3 cups white sugar
2 coconuts (five cups coco milk)
1/2 kilo ubi, pared, boiled, mashed, and strained
1/2 teaspoon powdered anis

For the top layer mix 1½ cups thick coco milk, (first extraction) one-half cup ground rice and 2/3 cup sugar. To the rest of the ground rice, add the remaining coco milk and sugar and stir well. Divide this mixture into two parts. Use one part for the bottom layer. Mix the ubi with the other part for the middle layer. Boil water in a carajay and place a rattan ring (*dikin*). On it place a pie pan. Pour in it 3/4 cup of the mixture for the bottom. Cover the carajay and steam until set. Then pour one cup of the ubi mixture and steam again. When firm, pour the mixture for the top layer and steam again until firm. Remove from the steamer. Cook the rest of the mixture in the same way. Allow to cool and serve in slices. (2 chocolate cakes, melted, may substitute ubi for the middle layer.)

68. Oros-Oros

2 cups malagkit rice, soaked in one cup water overnight
1 small coconut, grated
1/4 teaspoon anis, roasted and powdered
1 cup packed, brown sugar

Grind rice to a stiff dough. Form into balls about the size of marble. Flatten and use as wrapper and fill with the following mixture and form into balls again. Mix the grated coconut, sugar, and *anis* and cook until thick and sticky. Arrange the balls side by side in a native oven lined with banana leaf. Brush the top with mixture of coco milk and sugar. Bake in native oven until brown. Serve hot.

69. SQUASH UKOY

Fat for frying (deep)
2 cups grated squash
1 cup boiled shrimps (with shell)
1 cup water
1 teaspoon salt
1 big onion (sliced)
1 cup ground rice

Mix water with the ground rice, grated squash, onion, and salt. Arrange a portion of this mixture in a saucer and put two or three shrimps on top. Slip into the hot fat and fry until crisp and brown. Serve with vinegar and garlic dressing. (A cup of sprouted mongo may be added to the squash.)

70. INANGIT

2½ cups malagkit rice
3 cups coco milk (*1 coconut*)

Boil the coco milk in a carajay. Sort the rice and drop it in the boiling milk. Add salt. Stir while boiling until rice is quite dry. Reduce heat and cover rice with banana leaf, then cover the carajay with a fitting lid. Allow to steam until rice is thoroughly cooked. Roll two or three tablespoons portion like *suman*. Serve with ripe mango or with chocolate or sweetened coco milk.

71. BIBINGKANG MALAGKIT

1 teaspoon salt
2 cups malagkit rice
1½ cups brown sugar
3/4 cup rich coco milk
2½-3 cups diluted coco milk from 2 coconuts
1 teaspoon salt
1/4 teaspoon powdered anis

Boil diluted coco milk in a carajay. Add sorted *malagkit* rice and salt. Boil until cooked and quite dry stirring constantly to keep from burning. Lower heat and add two-third cup sugar. Line a clay oven with wilted banana leaf and transfer the mixture into it. Pour the rich coco milk on top of it, the rest of the sugar and the *anis* seeds. Place the cover of the clay oven with live coals and bake until brown.

72. KALAMAY LATIK

2 cups malagkit rice
2 cups sugar
3/4 cup water
1/4 teaspoon powdered anis (roasted)
1/2 teaspoon salt

Cook *malagkit* rice in the usual way. Boil sugar and water, when quite thick, add cooked rice and salt. Cook over slow fire stirring constantly until sticky and thick. Add the *anis* seeds. Transfer to a platter and allow to cool. Serve with *latik.*

Procedure for latik:

Grate two coconuts and extract three or four times adding one-half cup hot water for each extraction. Boil the coco milk until all water has evaporated and only oil and *latik* remain. Fry *latik* in the oil until golden brown.

73. GUINATAAN RICE AND CORN

1 cup rice, malagkit
1 cup young corn, cut from cobs
A pinch of salt
3/4 cups thick milk (coco)
5-6 cups coco milk from 2 medium-sized coconuts
Sugar to suit taste

Grate coconut and squeeze out the thick milk. Extract three or four times adding 1½ cups water for each extraction. Boil the rice, corn, and diluted coco milk together. Stir once in a while to keep from burning at the bottom. Add salt and sugar when the rice and corn are tender. Pour a teaspoonful of the thick milk on top of each serving. Serve hot. (Note: if too thick add more coconut milk.)

74. GUINATAAN WITH RICE BALLS

1 cup rice, malagkit
2 medium-sized camote
2 medium-sized gabi
5 bananas, saba
Sugar to taste
1 cup langka meat
1/2 kilo ubi
1/2 teaspoon anis seeds
2 coconuts (5 cups coco milk)

Soak and grind rice to a stiff dough. Grate coconut and extract the milk four times. The first extraction should be the thick milk added before serving. Pare ubi, gabi, and camote and cut them into one-half inch cube. Peel bananas and cut them into cubes. Cut *langka* into strips. Form the ground *malagkit* rice into small balls. Boil camote, ubi, gabi and add rice balls when the mixture is boiling. When cooked add bananas and *langka, anis* and sugar. Serve with rich coco milk.

75. SUMAN SA LIHIA

2 cups malagkit rice	*2 teaspoons lye*

Wash and soak rice in one cup water for one hour, then drain. Add lye mixing very well. Prepare pieces of banana leaf about six inches wide. Put two pieces one on top of the other and place three heaping tablespoons of rice in the center. Wrap rice tightly with the two pieces of banana leaf; fold the two ends in the same direction. Put two together in pair and tie tightly. Arrange in an enamel kettle or clay pot all the *suman.* Cover with plenty of water and boil for at least two hours or until cooked. (Open one *suman* to be sure that it is cooked.)

76. COCONUT MILK AND PINIPIG

2 cups pinipig, fried or toasted	*Sugar to taste*
3-4 cups coco milk from 2 or 3 coconuts	*Lard for frying*

Add sugar to coco milk and leave in refrigerator for a while to cool. Serve in cups with toasted or fried *pinipig*.

77. PUTO KAWALI (HOT CAKE)

1 *cup white rice, soaked and ground very fine with 2 cups water*	2 *tablespoons sugar* 1 *tablespoons baking powder* 1/2 *teaspoon salt* 2 *tablespoons oil*
2-3 *eggs*	

Add sugar, salt, baking powder, oil, and well-beaten eggs to the ground rice. Beat. Pour one-fourth cup at a time in slightly greased frying pan. Turn only once—when bubbles appear on top. Spread with butter and sprinkle with sugar before serving, or serve with syrup.

78. PANARA

2 *cups rice, soaked in 2½ cups water and ground into thick batter*	5 *stalks green onion* 2 *cups grated squash* 1 *cup small boiled shrimps* 1 *onion, cut into thin slices* *Plenty of lard for frying*
2 *tablespoons achuete seeds*	
6 *tablespoons fat*	
Salt and pepper to taste	

Put fat in a carajay. When hot pour rice batter colored with achuete water. Cook until it becomes very thick paste and can be molded and rolled. Stir while cooking. Mix squash, onion, shrimps, green onion, and seasoning. Get a portion of the cooked rice about the size of an egg. Roll with a rolling pin on a piece of banana leaf. Fill about a tablespoonful of the squash mixture and turn one side of the rice wrapper over the other side in the form of a half-moon; trim the edge and flute it. Fry in deep hot fat.

79. SUMAN SA LATIK

2 cups malagkit rice
1 cup ordinary rice

Mix the two kinds of rice together; rinse and allow to soak for at least six hours. Grind with 1½ cups water. For every one cup of the mixture add one cup coco milk and 1/3 cup brown sugar. Cook until thick, stirring constantly. Allow to cool; then wrap two tablespoonfuls of the mixture at a time in pieces of wilted young banana leaf with little *latik* on top. Tie in pair and steam for 30 minutes. Serve cold. See procedure for latik p. 54.

80. SUMAN SA DAHON OR SUMAN INANTALA

2¼ cups malagkit rice
3 cups coconut milk from 1 coconut
1 teaspoon salt
Young banana leaves cut into 6 inches wide
Several strings for tying, 3 feet long for each suman.

Boil the coconut milk in a carajay or *tallasi*. Soak the *malagkit* rice, rinse and drop in the boiling coco milk. Add salt and stir until rice is quite dry. Reduce the heat, cover with banana leaf to steam. Turn the rice over with a turner two or three times to keep the bottom from getting burned. Roll in portion in each piece of banana leaf 4½ by 1 inch in diameter. Wrap with the banana leaf and fold the two ends in the same direction. Tie in pair and boil in a carajay or pot lined with banana leaves for about one hour.

81. SUMAN SA IBUS

2 cups malagkit rice, soaked in one cup water for an hour
1 cup coconut milk (first extraction)
1½ teaspoons salt

Wash the rice and allow to drain in a strainer or collander. When dry sprinkle with coconut milk to moisten again. Fill the prepared coconut leaves as wrappers. Fold the opened end to close and tie the *suman* with strip of coconut leaf. Arrange the *suman* in a cooking pot (lined with leaves) in standing position. Add water to entirely cover the *suman*. Cover and boil for at least one hour.

If ready-made wrappers of *suman* are not available, they may be prepared beforehand by securing about 12 coconut leaves (48 inches by 1 inch with removed midrib). Fold one end of a coconut leaf of about 1½ inches. Over the fold make a lengthwise fold forming a small pocket and use it as a base. Wind the leaf round and round to form a cylinder of about 5½ by 1½ inches in diameter. Fill this with the *malagkit* moistened with coconut.

82. Tikoy

2 cups malagkit rice
1 cup ordinary rice
1/2 *cup sugar*

Grind both kinds of rice. If watery, place in a bag and drain by applying pressure (place a heavy weight on top). Mix sugar and rice dough thoroughly; line a small *bilao* or round tray with banana leaf. Grease the top with coconut oil or margarine. Place the mixture of sugar and rice dough and press all over to spread to cover the bottom of the tray or *bilao*. Grease the top side in the same way; then steam in a steamer (*lansungan*) for about half an hour. Cut into pieces and serve with sugar and tea. The pieces may also be fried before serving.

83. Keping

1 *cup rice flour*
1 *tablespoon baking powder*
1/4 *teaspoon salt*
1 *tablespoon sugar*
1 *egg*
1 *tablespoon fat*
1-2 *tablespoons cold water*

Mix and sift dry ingredients. Beat egg and add to the melted fat and water; then pour this mixture into the dry ingredients. Mix well and add enough flour to knead smoothly. Divide into small portions and roll each portion very thin on a floured board. Shape round if desired. Fry in very hot fat. Serve with thick syrup spread on top of each keping.

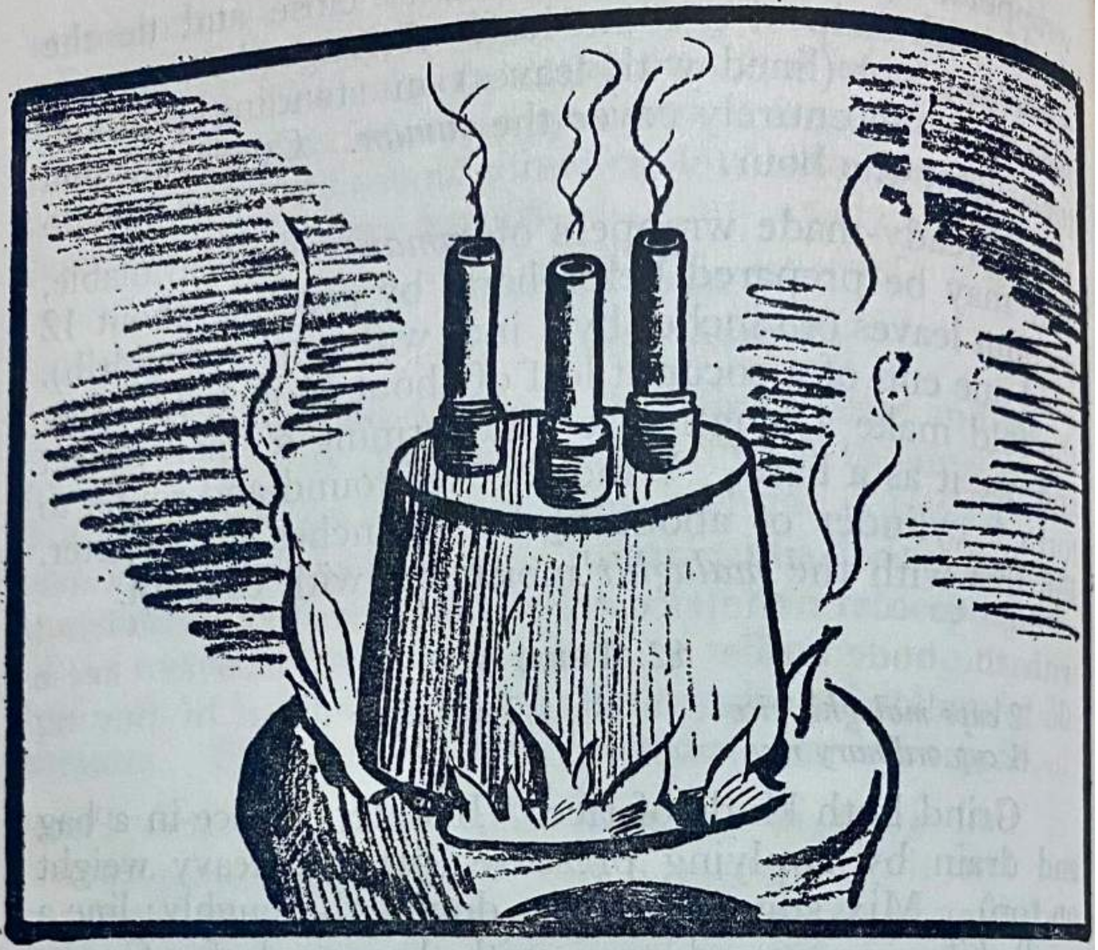

Plate 8.—Steamer for puto bumbong

84. Puto Lansong

2 cups malagkit rice	*1/2 coconut, grated*
3 tablespoons pirurutong rice	*1 cup sugar (white or brown)*

Mix the two kinds of rice and soak for 5 to 6 hours. Drain and grind dry. Prepare the steamer (carajay and *lansungan*). Line the *lansungan* with banana leaf. Scatter the dough on the banana leaf by passing through a sieve or coarse strainer until the desired thickness is obtained (about 1 cm.) Steam until clear violet, about thirty minutes. Sprinkle water when the dough is too dry during the process of steaming. When cooked, form with the banana leaf the desired shape. Serve with sugar grated coconut.

85. Sinaludsud

1/2 liter rice (2 cups, soaked in two and one-half cups water)	*1 tablespoon baking powder*
1½ cups sugar (white)	*1 egg or cheese (local or kraft)*

Soak rice in water overnight. Grind to make a thick batter and allow to stand overnight to ferment. Add sugar and baking powder; blend well. Let stand for about one hour. Cook with cover in a greased frying pan like hot cake. Turn only once. Serve hot with sliced white cheese and hard-cooked egg on top. It may also be served with grated coconut.

86. PUTO BUMBONG

2 liters malagkit rice	*1/2 cup brown sugar*
2 tablespoons pirurutong rice	*1 coconut*
2 tablespoons cooked rice	

Soak the *malagkit* and *pirurutong* rice in water enough to cover the rice for at least five hours. Grind with the boiled rice to a stiff dough. Place in cheese cloth to allow excess water to be pressed out by putting the bag under heavy weight.

Boil water in the *puto bumbong* steamer (See Plate 8). Put the *bumbong* molds in holes of the steamer and allow the steam to pass through. Fill the *bumbong* tube with grated coconut while hot; then remove the coconut and fill the tube or *bumbong* with the sifted-ground rice loosely packed and place in the steamer. Allow to steam until the rice mixture shrink from the side of the tube. Remove the tube from the steamer and shake it to dislodge the content. Repeat the process until the ground rice mixture is all used. Serve with sugar and grated coconut while hot.

87. CHOCOLATE RICE PUDDING

2 cups coconut milk	*1/2 cup chocolate syrup*
1/2 cup raw rice	*2 eggs, separated*
3/4 teaspoon salt	*1 teaspoon butter or margarine*

Combine rice, milk, and salt in top of the double boiler. Cover and cook over hot water until rice is tender. Blend in the chocolate syrup; then pour part of hot mixture over slightly beaten egg yolks. Return to double boiler and cook for 3 minutes stirring constantly. Remove from heat, add butter and fold in the stiffly beaten egg whites. Serve warm or cold.

Chocolate Syrup

Melt 4 squares chocolate, unsweetened, over hot water. Blend in 3/4 cup sugar and 1/8 teaspoon salt; gradually add 3/4 cup water stirring constantly. Place over low heat for 5 minutes, then gradually stir the mixture into beaten egg yolks. Cool and add 1/2 teaspoon vanilla. This syrup may also be used as a sauce for custard, puddings or ice cream; make about one cup.

88. Pinipig Crunches

2/3 cup shortening
1½ cup brown sugar
3 eggs
2 tablespoons milk
1 teaspoon vanilla
1/2 teaspoon salt

1 cup raisins
1 cup nuts, chopped
2 cups pinipig, toasted
2 cups flour
1 teaspoon baking soda
1 teaspoon cinnamon

Cream shortening and sugar; add eggs, one at a time, and beat well after each is added. Add rest of ingredients and drop from tip of spoon on greased pan. Bake about 12 minutes in moderate oven 350°F.

89. Rice Pudding

1/4 cup rice, raw
1½ cups coconut milk (from 1 big coconut)
3 eggs, separated

1/2 cup sugar
1/4 teaspoon salt
1 teaspoon vanilla

Cook rice in ordinary way with the coconut milk. Stir occasionally to keep rice from burning. Beat egg yolks well. Add 3 tablespoons of the sugar and salt; stir in some of the hot rice mixture; return to rest of hot rice and cook 2 minutes longer, stirring constantly. Remove from heat and cool slightly. Stir in vanilla. Beat egg whites until stiff and gradually beat in the remaining sugar until smooth. Fold into rice mixture and serve with undiluted coconut milk saved from the first extraction of the coconut. Note: Fresh or evaporated milk may take the place of coconut milk.

90. Pinipig Cookies

1 cup shortening
1½ cups sugar
2¼ cups flour
2 teaspoons baking powder

3 cups toasted pinipig
3-4 eggs
1 teaspoon flavoring
(Lemon rind or extract)

Cream shortening (butter, margarine or hydrogenated fat) and sugar. Add in three portions the beaten eggs and flavoring. Add flour sifted with baking powder and one teaspoon salt, if the shortening is unsalted. Add crushed toasted pinipig. Mix thoroughly until well blended. Drop by teaspoonful on cookie sheet, flatten with back of the tines of a fork. Bake in a moderate heated oven 350°F until golden brown about 15 minutes.

91. Pinipig Crispies

1½ cups shortening
2 cups brown sugar
1 cup granulated sugar
3-4 well beaten eggs
1/2 cup toasted chopped nuts
4 cups crushed fried pinipig
2 teaspoons lemon rind
1 tablespoon lemon juice
4 cups all-purpose flour
1 teaspoon salt
1 teaspoon baking soda

Thoroughly cream shortening and sugar. Add beaten eggs in three portions, lemon juice, and rind. Add sifted dry ingredients. Add nuts and *pinipig.* Mix well. Drop by teaspoonful in slightly greased cookie sheet. Press with back of fork. Bake at 350°F for 10 to 15 minutes or until brown.

92. Pichi-Pichi

2 cups malagkit
2 cups water
2 cups fresh pinipig
1 cup sugar
1 cup water
3 cups grated coconut

Wash *malagkit* and boil in two cups water until cooked. Add water to *pinipig* just enough to soften. Pour thin syrup (made of 1 cup sugar and 1 cup water) to boiled *malagkit.* Stir thoroughly over low fire.

Add soaked *pinipig* to mixture, and continue stirring until well blended and quite thick to form into molds. Let cool a while; form in molds. Roll in grated coconut.

93. Pinipig Cinnamon Cake

1½ cups sifted cake flour
1 teaspoon baking powder
1/2 teaspoon salt
1/2 teaspoon nutmeg
1/4 cup butter or margarine
1/3 cup refined sugar
2/3 cup milk
1 egg

Sift and measure all the dry ingredients; then sift again. Cream shortening and sugar. Add egg and beat well. Stir in sifted dry ingredients alternately with milk. Care should be taken not to overmix. Spread to greased 9 x 9 inches pan. Spread on top the following mixture:

1/3 cup refined sugar
1/2 teaspoon cinnamon
1/2 teaspoon nutmeg
2 tablespoons melted butter or margarine
1 cup toasted pinipig

Mix all the above ingredients and sprinkle over the batter. Bake in moderately hot oven 400°F about 20 minutes. Cut into serving sized pieces and serve at once.

94. Pinipig Rum Fruit Cake

1 cup medium syrup
1½ pound candied mixed fruit
1 big package seedless raisins
1 medium lemon juice and grated rind
1 medium orange juice and grated rind
1 cup rum
4 cups sifted all purpose flour
1 pound pili nut and casoy nuts (combined)
1 teaspoon salt
1 teaspoon soda
3/4 pound butter or margarine
1 cup milk
1 cup toasted pinipig
2½ cups granulated sugar
6 eggs, beaten

To make syrup, heat 1/2 cup sugar and 1 cup water to boiling, then simmer 5 minutes, cool. Combine syrup, mixed fruit, raisins, orange and lemon juice, and rind, rum and nuts, and *pinipig*. Allow to stand 6 to 8 hours or overnight covered, but mix 2 to 3 times as liquid settles at the bottom, and lower layer of the ingredients becomes more saturated.

Mixing cake—Have ingredients at room temperature. Measure dry ingredients (flour, soda and salt) and sift. Cream shortening and sugar until fluffy. Beat eggs and add portion by portion to the creamed fat and sugar. Stir or beat while adding the eggs. Add the dry ingredients alternately with the milk. Beat well, then add to the fruit mixture and mix very well. Fill cake pans previously lined with cardboard and wax paper (just the bottom) about 2/3 full. Drop pans on table top 2 or 3 times to pack batter down evenly. Put a thin film of milk over tops. Bake in moderately hot oven 350°F for about an hour or until done. Allow to cool before wrapping. Then store in a cool place—in a refrigerator.

95. SHRIMP KROPECK

1 cup rice, ground fine *1 cup shrimp juice*
1 teaspoon lime solution (*1 teaspoon lime plus* 1/2 *cup water*)

Soak rice overnight in water. Drain and grind fine with an equal amount of shrimp juice. Add the lime solution and stir well. Put enough of the mixture in a pie plate about 2 mm. or 1/8 of an inch thick. The mixture should cover the entire bottom of the pie plate. Steam for 2 to 5 minutes over boiling water or until the mixture looks clear and transparent. Cut into small pieces 1 by 2 inches and dry in the sun thoroughly. Fry in deep hot fat until golden brown. May be kept for future use.

96. FISH KROPECK

1 *cup rice*
3 *tablespoons fish powder*
1 *cup water*
1 *teaspoon lime solution* (1 *teaspoon lime mixed with* 1/2 *cup water*)
1 *teaspoon refined salt*

Wash and soak rice in water overnight or six hours. Drain and grind with one cup water. Add fish powder, salt and lime water. Steam in a square or round baking pan. There should be enough mixture to cover the bottom of the pan evenly (about one-eighth of an inch deep). The pan may be steamed in a steamer or a native big carajay in which a rattan ring is placed to hold the pan. The carajay should have a fitting cover to prevent the escape of steam. The steaming should last for 2 to 4 minutes until the mixture looks transparent. Remove from the steamer and cool over a basin of cold water. Cut into desired shape as square, rectangle, etc. Remove the pieces from the pan and arrange side by side in a drier, (a cookie sheet or a flat basket, *bilao*) and dry them in the sun. When thoroughly dry fry in deep fat 365°F until golden brown or they may be kept in a well-covered container for future use.

97. Puffed Rice

Spread left over cooked rice on a drier (cookie sheet or flat basket, *bilao* and dry well in the sun). Fry a portion at a time in deep hot fat to puff the grains of rice. Fry until golden brown. Drain well in a strainer or collander. This puffed rice may be served for breakfast with milk or may be made into *ampao* for dessert or snack.

98. Puffed Rice Balls

1 cup sugar
1/3 cup molasses
1/2 cup water
1/4 teaspoon salt
2 teaspoon butter
4 cups puffed rice

Put sugar, syrup, water, and salt into a saucepan. Cook slowly until the sugar dissolved, then cook more rapidly to 250°F or until it forms a hard ball when one-half teaspoon is dropped into cold water. Stir in butter. Pour syrup over popped rice or popped *pinipig* stirring continuously. While still quite warm form into balls. See recipe above for Puffed Rice. *Pinipig* may be puffed either by toasting or frying in shallow frying pan.

II. RICE BRAN*

99. Tikitiki-Malagkit Mush

1/2 cup tikitiki flour
1/2 cup ground glutinous rice (malagkit)
2 cups water
2 cups coconut milk
1 cup sugar
1/2 teaspoon salt

Mix the coconut milk, water, sugar, and salt, and bring to a boil. Strain through a piece of cloth, and place in a pan. Add the rice and tikitiki flour and boil until the rice is soft. Serve with coconut cream and sugar.

100. Darak Puto

1/2 cup tikitiki flour
1½ cups rice
3/4 cup coconut milk
6 teaspoons baking powder
1 cup sugar

Wash the rice, soak in water for a short time, and grind in a stone or iron grinder. Let the flour to settle the bottom and drain off water. Add coconut milk to the ground rice. Sift the tikitiki flour with the baking powder and sugar and mix well with the rice flour and coconut milk. Fill muffin pans nearly full of this mixture; cook in a pan of boiling water or by steam. When cooked set in a pan of cold water for a few minutes. Remove the puto from the pan and serve with shredded coconut.

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* All the recipes on Rice Bran are adopted from "*Rice Bran: A Health Food and How to Cook It*" by Maria Y. Orosa, Manila, Bureau of Printing, 1932. They were, however, tested by the author in the Cooking Laboratory of the Philippine Women's University.

101. Tikitiki-Malagkit Kalamay

1/2 cup tikitiki flour
1 cup ground malagkit
2 cups coconut milk
1 cup brown sugar

Mix the above ingredients in a pan and cook over a moderate fire, stirring constantly, until the mixture becomes sticky and the rice very soft.

Line a plate with a piece of banana leaf, place the mush on it and sprinkle with a few tablespoonfuls of toasted grated coconut.

102. Darak Palitao

1/2 cup tikitiki flour
1/2 cup ground glutinous rice (malagkit)
1/8 teaspoon salt
2 tablespoons sugar

Wash the rice and soak overnight in plenty of cold water. Grind in a stone or iron grinder. Place in a pan and let stand for a while undisturbed. Drain off as much water as possible by decanting it. Add the tikitiki flour and salt, and shape 1 tablespoonful portion of the mixture into long, flat, thin, tonguelike cakes. Drop in boiling water and cook until they rise and float on top. Remove from the boiling water and drop in cold water, then drain well. Cover with a mixture of equal proportions of finely shredded coconut, toasted linga, and sugar.

103. Pinindot with Banana and Sweet Potato

1/4 cup tikitiki flour
1/4 cup wheat flour
2 pinches of salt
2 ripe saba, bananas, cut into small cubes
1/4 cup coconut cream
1 medium-sized sweet potato, cut into small cubes
1 cup coconut milk
2 cups water
1/3 cup sugar
1 tablespoon sago

Sift the tikitiki flour, wheat flour, a pinch of salt, and 2 tablespoons sugar, twice. Add just enough water to form a soft dough. Form into small balls, and drop these into the mixture of coconut milk and water brought to a boil. When the balls float, add the sweet potato, banana cubes, and then the *sago*. Boil until the potato and banana are tender. Sweeten with the rest of the sugar, add a pinch of salt, and just before serving add the coconut cream.

104. TIKITIKI FRITTERS (MADUYA)

1/2 cup tikitiki flour
1/4 cup wheat flour
1/2 teaspoon baking powder
A pinch of salt
3 tablespoons sugar
1 egg
1/6 cup milk
1/2 cup shredded young coconut

Beat the egg. Add the sugar, milk and the flour, previously sifted with salt and baking powder. Mix thoroughly. Then add the shredded coconut. Drop 1 teaspoon portions in hot deep fat, and fry until brown. Serve with thick syrup.

105. DARAK-BANANA FRITTERS

1/2 cup tikitiki flour
1/2 cup flour
5 ripe saba bananas
1½ teaspoons baking powder
1 egg
3/4 cup milk
2 tablespoons sugar
1 tablespoon lemon juice
1/4 teaspoon salt

Sift the dry ingredients together except the sugar; add the beaten egg and milk and beat until smooth. Peel the bananas; cut them into thin slices, lengthwise. Sprinkle sugar and lemon juice over the sliced bananas. Dip each slice in the batter, and fry in deep-hot fat until brown. Drain off excess fat and sprinkle with sugar (powdered sugar is best).

106. TIKITIKI ESPASOL

1/2 cup tikitiki flour
1/2 cup roasted glutinous rice ground to a fine flour
1/2 cup coconut milk
1 cup sugar
1/2 cup evaporated milk
A pinch of ground anis seed (roasted)

Roast the *darak* flour and sift it with the rice flour. Add the coconut milk and mix thoroughly. Boil the sugar and milk, add the mixture of flour and coconut milk and boil until thick. Lastly, add the ground *anis* seed and cook a few minutes longer. Place on a board covered with toasted glutinous rice flour, pat, roll to 1/4 inch thick and cut to desired pieces. Roll in toasted-rice flour (*malagkit*) and keep in a closed container.

107. Tikitiki Golloria

1/2 cup tikitiki
1/2 cup wheat flour
1/2 teaspoon baking powder
1½ *tablespoons butter*
2 egg yolks
1 teaspoon sugar
Water enough to moisten

Sift the dry ingredients (tikitiki flour, wheat flour, baking powder, and sugar) twice.

Work in the butter with the tips of the fingers. Add the egg yolks and mix thoroughly with enough water to form a soft dough. Transfer the dough to a floured board and knead until a fine, smooth dough is obtained. Roll out to a thin sheet and cut into small pieces, 1¼ inches long and 1/2 inch wide. Lift on a fork and fold over to bring two ends together. Fry in a deep-hot fat until brown. Make a syrup of 3 parts sugar to 1 part water, and while boiling, drop in the fried golloria. Continue boiling over a slow fire, stirring constantly, until the fried dough is covered with a thin coating of sugar. Cool and keep in a well-closed container.

108. Tikitiki Ukoy

3/4 cup tikitiki flour
3/4 cup cornstarch
1 teaspoon salt
1 teaspoon baking powder
1 egg
1/2 cup sliced shrimps
1/2 cup sprouted mongo beans (togue)
1 head-sliced garlic
1 tablespoon green onion, cut into fine pieces
1½ *cups shrimp juice*

Mix the tikitiki flour, cornstarch, salt, and baking powder and sift twice. Add the shrimp juice, the well-beaten egg, then green onion, and mongo sprouts. Drop small amount in deep-hot fat to fry. When the flakes are half-cooked, place on each portion a few slices of sliced shrimps and garlic, and continue frying until brown. Serve with vinegar and a small amount of garlic, chopped fine.

109. Tikitiki Bunuelos

1/4 cup tikitiki flour
1/4 cup wheat flour
1 tablespoon butter or lard
2 eggs
1/4 cup water
1/8 teaspoon salt

Boil the water, salt, and butter. Add the sifted flours and remove from the fire. Stir with a wooden spoon. Then add the eggs and beat well. Drop by teaspoonfuls in deep hot fat and fry until brown. Serve with thick syrup.

110. Tikitiki Pudding

1/4 cup tikitiki flour
1/2 cup boiling water
2 tablespoons sugar
1 small package of seedless raisins
1 cup milk
2 eggs
A pinch of salt
A pinch of cinnamon

Cook the tikitiki flour and salt in water for 10 minutes. Strain through a piece of *sinamay*. Beat the eggs lightly in a pan. Add the sugar and milk, and mix thoroughly. Stir in the cooked tikitiki flour and mix to a thin, smooth paste. Add the cinnamon and pour in a pan lined with thick caramelized syrup; cook in boiling water until it reaches the consistency of custard. Place in an oven to brown the top, or use a sheet of metal with live charcoal over it, as in Tikitiki Custard.

111. Tikitiki Custard

1/4 cup tikitiki flour
1/2 cup milk
3 egg yolks
1/2 cup soy bean-milk
1/4 cup sugar
1 teaspoon grated lime peel

Beat the egg yolks with sugar. Add the milk, soybean milk, the grated lime peel and mix thoroughly. Add the tikitiki flour and beat well until smooth. Line a mold with a thick caramelized syrup and when the syrup has dried out, pour in the mixture. Place the mold in a pan of boiling water and cook until the pudding is set. Brown the top by placing the mold in the oven or by placing a piece of sheet metal on top and covering it with live charcoal.

112. Tikitiki Rice Cookies

1/2 cup tikitiki flour
1/2 cup flour
1/2 cup butter
1/3 cup sugar
1 egg, well beaten
1/2 grated lime rind

Cream the butter; gradually add the sugar, well-beaten egg, flour, and grated lime rind. Spread thinly on a buttered sheet, 2 inches apart, 1 teaspoonful portions of the cookie dough. Bake in a moderate oven until brown.

Pili nuts, raisins, or sliced candied fruits may be placed on each cookie before baking.

113. Tikitiki Coconut Cookies

1/2 cup tikitiki flour
1/2 cup flour
1 teaspoon baking powder
1 egg
1/6 cup grated coconut, partially dried
1/3 cup sugar
1/3 cup thick cream (coconut)
1/3 teaspoon salt

Beat the egg until light; add the sugar, coconut, cream, and the flours, previously sifted with salt and baking powder. Chill. Place on a floured board and roll out to 1/2 inch thick. Sprinkle with coconut; roll out to 1/4 inch thick and cut with a round cutter. Bake in a buttered sheet, in a moderate oven, until brown.

114. Tikitiki Doughnuts

3/4 cup tikitiki flour
1 cup flour
2 teaspoons baking powder
1/2 cup sugar
1½ tablespoons butter or margarine
2 eggs
1/3 cup milk
1/2 teaspoon salt
1/8 teaspoon, each of ground cinnamon and nutmeg

Cream the butter and add 1/4 cup sugar. Add the remaining sugar to the lightly beaten eggs, and add this to the creamed butter and sugar. Add the mixture of flours sifted with salt, baking powder, and spices, and more flour if necessary to make a dough stiff enough to roll. Place on a floured board, knead very lightly, pat, and roll out to 1/4 inch thick. Cut with a doughnut cutter, fry in deep-hot fat until brown; drain, and roll in sugar.

115. TIKITIKI MUFFINS

1 cup tikitiki flour
3/4 cup flour
4 teaspoons baking powder
1/2 teaspoon salt
1/4 cup sugar
2 eggs
1 cup milk
3 tablespoons melted butter or margarine

Mix the dry ingredients and sift three times. Add gradually the well-beaten eggs, milk, and melted butter. Stir until well mixed. Fill greased muffin pans and bake in a moderate oven from 20 to 25 minutes.

116. TIKITIKI HOT CAKES

1/2 cup tikitiki flour
1/2 cup flour
3 teaspoons baking powder
1/4 teaspoon salt
1 tablespoon sugar
2 eggs
1 tablespoon melted butter
1/2 cup milk, or more

Mix the dry ingredients and sift twice. Beat the eggs and beat the milk into them. Add this mixture gradually to the dry ingredients. Then add the butter. Drop by spoonfuls on a greased pan or griddle. Cook on one side until puffed and full of bubbles. Turn over and cook the other side. Serve hot with butter and syrup.

117. TIKITIKI WAFFLES

3/4 cup tikitiki flour
3 teaspoons baking powder
3/4 cup flour
1/2 teaspoon salt
1 tablespoon sugar
2 eggs
1 cup milk
1 tablespoon melted butter or margarine

Mix the dry ingredients and sift three times. Add the milk gradually, the well-beaten eggs, and the melted butter. Pour in hot-waffle iron and cook until both sides are brown. Serve with butter and syrup.

118. TIKITIKI PLAIN CAKE

3/4 cup tikitiki flour
3/4 cup flour
2 teaspoons baking powder
1/8 teaspoon salt
2/3 cup milk
3/4 cup water
1/3 cup shortening, butter or margarine
1 teaspoon vanilla
2 eggs

Sift the flour with baking powder and salt. Cream the butter and sugar; add the well-beaten egg yolks and vanilla. Beat until creamy. Add alternately the flour mixture, and the milk. Fold in the well-beaten whites of the eggs. Bake in buttered layer-cake pans. Any jam, jelly, or frosting may be used.

119. TIKITIKI MAMON

1/2 cup tikitiki flour
1/2 cup flour
3/4 cup melted butter or margarine
18 egg yolks
3/4 cup sugar

Beat the egg yolks until thick and lemon colored. Gradually add the sugar, beating while adding, until the mixture becomes creamy. Add the flour gradually and then the melted butter. Bake in a moderate oven.

120. TIKITIKI MASAPODRIDA

1/4 cup tikitiki flour
1/4 cup wheat flour
2 tablespoons sugar
2 tablespoons fat
2 egg yolks
A pinch of salt

Sift the flour and salt and work in the shortening (fat). Beat eggs, add sugar and continue beating until thick. Add to flour and knead. Add a small amount of water if necessary. Place on a flour board. Pat and roll out to 1/4 inch thickness. Cut with a biscuit cutter; brush the top of each piece with diluted egg yolk and sprinkle with a few grains of sugar. Bake in a hot oven until golden brown.

APPENDIX

Cookery Methods and Terms

Bake: To cook in oven heated to desired temperature; called roasting when applied to meat.

Baste: To moisten food while cooking, by spooning liquid or fat over surface.

Batter: A smooth mixture of flour, liquid and other ingredients that pours.

Blanch: To pour or dip in boiling water, then in cold water.

Beat: To make mixture smooth with a hand or electric beater.

Blend: To combine thoroughly.

Boil: To cook in boiling liquid in which bubbles constantly rise to the surface and break. At sea level water boils at 212°F. Once liquid boils, turn heat down. Slow boiling water is just as effective as rapid.

Raise: To brown meat or vegetables on all sides in a little hot fat, or salad oil, then to add a little liquid, cover, and cook tender over low top stove or in a slow oven.

Broil: To cook under the heat of a broiler or over hot coals.

Brush with fat: To cover lightly with fat, cream, slightly beaten egg white, etc. using a pastry brush or crumpled waxed paper.

Caramelize: To melt sugar in a skillet over medium heat, stirring constantly, until it forms a golden brown syrup.

Chill: To place in refrigerator or other cold place until cold.

Chop: To cut into small pieces with a knife or in chopping bowl. Do not use food chopper.

Coat: To cover entire surface with a given mixture. For example to dip food into seasoned flour; until evenly covered on all sides.

Mash: To make soft by pressing or beating.

Mince: To cut or chop very fine.

Mush: A soft thick mixture.

Pan broil: To cook a food such as steak, uncovered, in ungreased or very lightly greased hot skillet, pouring off fat as it cooks out.

Parboil: To boil food in water until partially cooked.

Parch: To brown by means of dry heat, applied to grains, as corn.

Pare: To remove outer covering by cutting with knife, as in case of an apple.

Peel: To pull off outer covering, as in case of banana.

Scald: To heat to just under boiling point. With milk, heat in double boiler until bubbles gather at sides and a skin forms over surface.

Sift: To put through a flour sifter or fine sieve.

Simmer: To cook in liquid just below boiling point—about 185°F at sea level.

Cream: To work shortening with back of spoon until light and fluffy. Electric beater may be used.

Cut and fold: To combine by using two motions, cutting vertically through the mixture and turning over and over.

Dice: To cut in small cubes.

Dissolve: To mix a dry substance with liquid until it is in solution.

Dough: A stiffened mixture of flour, liquid, etc. thick enough to be kneaded or rolled.

Dredge: To lightly coat or sprinkle with flour, corn meal, sugar, etc.

Fry: To cook in hot fat.

Saute or pan-fry: To cook in small amount of hot fat or salad oil, bacon fat or dripping in skillet.

Shallow fry: To cook in 1-1½ inches of hot fat or salad oil in a deep saucepan.

Deep fry: To cook in deep fry kettle in enough fat or salad oil to float food.

Garnish: To decorate.

Grate: To rub on a greater and so produce particles, as in grated lemon rind, choose, etc.

Grind: To put through food chopper or grinder using fine, medium or course blade.

Infuse: To steep without boiling.

Knead: Fold dough or mixture over on itself, then press down lightly with knuckles using a sort of rocking motion. Repeat until smooth and satiny.

Steam: To cook in steam.

Steep: To let stand in hot liquid below boiling point, as with tea leaves in making tea.

Stir: To blend ingredients with a circular motion.

Stock: The liquid in which meat, chicken, fish, or vegetables is cooked.

Toast: To brown in broiler or oven or in toaster.

Truss: To fasten closely or tightly.

Whip: To beat rapidly, usually with hand or electric beater or wire whisk to incorporate air.

Useful Facts About Foods

1. All protein foods such as milk, egg and meat should be cooked at moderate or low heat.

2. Starches are used for thickening, but they do not all have the same thickening power. Cornstarch has more thickening power than flour.

3. Flour and starch are not the same. Starch is purely starch while flour contains other substances besides starch.

4. Everything being equal, the stiffness of the starches have been arranged in the order of decreasing viscosity, as corn, wheat, rice, potato, arrowroot, and cassava.

5. Toasting the starch lessens its thickening power.

6. Acids and prolong cooking make cooked starch mixture thinner.

7. Moistening the starch with cold liquid, or mixing it with fat or with equal amount of sugar will not produce lumps when it is added to boiling liquid.

8. Cooked starch thickens upon cooling so if it is not to be used immediately more liquid should be added in cooking.

9. Acid has tenderizing effect on meat but toughening effect on vegetables. It is better to add acid when the vegetables are already cooked.

10. Sugar has hardening effect on cereals. Add sugar when the cereal is already done.

11. Anis seeds used for flavoring need be wasted to develop the aroma.

12. Frying slices of potato to fat that has acquired disagreeable odor or flavor will improve it.

13. If soup is too salty, quarter a raw potato, drop in the soup and boil for a short time. The soup will be just right.

14. To shorten the time for soaking rice to be ground, use hot water instead of cold water for soaking.

15. Water used for washing rice is good to use as liquid for cooking other dishes such as *sinigang* or *pesa.* Any nutrient washed out from the rice is not wasted.

16. The smell of burned rice may be lessened if charcoals are placed on top of the burned rice in the pot and keep the pot covered. The charcoals absorb the odor.

17. Sugar intensify the sweet taste of sugar. Add little salt to dishes cooked with sugar.

18. Fats ignite easily. Care should be taken to avoid this. In case fat catches fire do not pour water. Smother the flame by covering wet sack or sprinkle baking powder or baking soda. Cover with ashes or sand or do anything that will exclude air.

19. High temperature and prolong cooking will make custard curdle.

Standard Characteristics of Cooked Rice and its Product "Galapong." Deviations and Causes.

Products and Characteristics	*Deviations*	*Causes*
Cooked Rice: grains are whole but well cooked, not too dry nor watery, sticky, no burned odor, has a pleasing and appetizing taste.	Too dry, too soft or watery	Lacked water or too much water, not steamed long enough.
	Burned taste	Too high heat for steaming.
Puto: rounded top or slightly cracked, tender, light and slightly moist, volume has increased almost twice, taste is mild and not bitter, taste blends well with grated coconut served with it.	Heavy and sticky	New rice, poor quality, not steamed long enough.
	No increase in volume	New rice, lacks leavening.
	Coarse and hard	Coarsely ground mixture, too thick.
	Bitter taste	Too much leavening agent.
Bibingka: evenly browned on both sides, tender, light and slightly moist, pleasant and inviting taste that blends well with grated coconut served with it.	Tough and hard	Hard kind of rice, lacks liquid, lacks fat, lacks sugar, slow heat, lacks leavening.
	Bitter	Too much leavening.
Cuchinta: deep brown in color, has somewhat thick jellylike texture, top is softer than the bottom, easily removed from molds when allowed to cool a little, fine texture, has a pleasant flavor that blends well with grated coconut served with it.	Pale in color	Not brown sugar was used.
	Too soft or too stiff	Too much liquid or lacks liquid.
	Sticky	New rice was used.
	Bitter	Too much lye added.

Products and Characteristics	*Deviations*	*Causes*
Maja: white or colored as according to ingredients, does not spread when sliced cold, retains corners when cut, smooth, free from lumps, no raw taste of starch, has pleasant appetizing flavor which blends well with toasted coconut served with it.	Does not keep shape when sliced	Has too much liquid, not cooked long enough to complete gelatinization.
	Lumpy	Not stirred well from beginning of cooking, not strained before cooking.
	Burned taste	Heat is too high, not well stirred while cooking.
Palitao: white and somewhat shiny, sticky and gelatinous in texture, keeps shape when cold, has pleasant and inviting flavor, uniform shape.	Coarse and hard	Not pure malagkit coarsely ground.
	Sticky and soft	Dough not stiff enough.
Espasol: very fine and smooth, stiff enough to keep its shape when cut cold, somewhat sticky and powdery, has pleasant and delicate taste.	Coarse, stiff and dry	Rice not ground as fine as flour; lacks liquid.
	Pale and too soft	Rice not well toasted, too much liquid, not cooked long enough.
	Burned taste	Overtoasted rice, not stirred well while cooking.
Tamales: brown color or white and brown if combined, looks attractive with its garnishing, retains shape when unmolded or unwrapped from banana leaves wrapper, tender when cut with a fork, pleasant and appetizing flavor of slightly	Does not retain shape when unmolded	Too much liquid, not cooked long enough, not cooled enough before unmolding.
	Pale color	Lacks coloring (achuete)

Products and Characteristics	*Deviations*	*Causes*
sweet, hot and salty combined. If these three sense tastes do not balanced unpleasant flavor may result.	Watery	Water entered in the banana wrapper either the wrapper is torn or the tamales is not well wrapped.
Suman sa Lihia: evenly cooked compact with yellow green color, has pleasant and delicate flavor, not bitter. Taste blends well with grated coconut and brown sugar served with it.	Not evenly cooked	Not enough water to cover when cooking, not cooked long enough.
	Bitter taste	Too much lye added.
	Grains separate when unwrapped	Not tightly wrapped, not pure malagkit rice, adulterated with ordinary rice.
Ukoy with Eggs: Spongy and crispy, uniform size, does not break easily, not greasy, with pleasant and inviting taste, almost melts in the mouth when eaten, the taste blends well with vinegar and garlic sauce.	Not crispy and spongy	Rice not old, not finely ground, fat for frying not of right temperature.
	Does not form in mass	Not fried enough, fat is too hot; too slow in gathering the batter.
	Too greasy	Temperature of fat is not right, not drained in absorbent paper.

Useful Sayings Worth Remembering

(*From "5,000 Quotations for All Occasions"—Arranged and Edited by Lewis C. Henry*)

1. If you would be wealthy, think of saving as well as of getting. —FRANKLIN

2. Recommend to your children virtue, that alone can make them happy; not gold.—BEETHOVEN

3. A woman of honor should not suspect another of things she would not do herself.—MARGUERITE

4. Of all the evil spirits abroad at this hour in the world, insincerity is the most dangerous.—A GERMAN PROVERB

5. Nothing is more simple than greatness, indeed to be simple is to be great.—EMERSON

6. God hates those who praise themselves.—ST. CLEMENT

7. Never leave that till tomorrow which you can do today.—FRANKLIN

8. Pain and pleasure, like light and darkness, succeed each other.—LAURENCE STERNE

9. Do not suppose opportunity will knock twice at your door. —CHAMFORT

10. A modest man never talks of himself.—LA BRUYERE

11. Money is a good servant but a bad master.—BACON

12. Behind bad luck comes good luck.—GYPSY PROVERB

13. Love sought is good but given unsought is better.—SHAKESPEARE

14. Necessity is the mother of invention.—ANONYMOUS

15. Victory belongs to the most persevering.—NAPOLEON

16. There is no virtue so truly great and Godlike as justice.—ADDISON

17. Admonish your friends privately, but praise them openly. —SYRUS

18. If you wish to reach the highest, begin at the lowest.—SYRUS

19. Never answer a letter while you are angry.—CHINESE PROVERB

20. When wealth is lost nothing is lost;
When health is lost, something is lost;
When character is lost, all is lost.—ANONYMOUS

21. Associate with men of good quality, if you esteem your own reputation; for it is better to be alone than in bad company. —WASHINGTON

22. Never tell your resolution beforehand.—JOHN SELDEN

23. The integrity of men is to be measured by their conduct, not by their profession.—JUNIUS

24. Enjoy your own life without comparing it with that of another.—CONDORCET

25. The small courtesies sweeten life, the greater enoble it. —BOVEL

26. There is no grief which time does not lessen or soften. —CICERO

27. An honest man is the noblest work of God.—POPE

28. Example is more efficacious than precept.—SAMUEL JOHNSON

29. He who does nothing, needs hope for nothing.—SCHILLER

30. Every moment of life is a step toward death.—CORNEILLE

31. No one reaches a high position without daring.—SYRUS

32. Tell me thy company and I will tell thee what thou art. —CERVANTES

INDEX OF RECIPES

Page

1. Arroz a la Cubana ... 34
2. Arroz a la Filipina ... 36
3. Arroz a la Paella ... 34
4. Arroz a la Valenciana ... 36
5. Arroz con Pata ... 37
6. Balao-Balao na Hipon ... 33
7. Baked Buchi ... 51
8. Bibingkang Galapong ... 46
9. Bibingkang Malagkit ... 53
10. Bibingkang Tangway ... 48
11. Bicho-bicho ... 41
12. Boiled and Steamed Rice ... 29
13. Boiled Rice with Milk ... 30
14. Boiled Rice with Tajuri ... 52
15. Bonbones de Arroz ... 44
16. Bringe ... 38
17. Buboto ... 50
18. Burong Isda ... 33
19. Champorado ... 51
20. Chicken and Rice ... 39
21. Chicken Roast, Stuffed with Rice ... 35
22. Chinese Fried Rice ... 39
23. Chocolate Rice Pudding ... 59
24. Cocomilk and Pinipig ... 55
25. Creamed Shrimps in Rice Ring ... 36
26. Creole Jambalaya ... 37
27. Cuchinta ... 48
28. Curried Shrimps ... 37
29. Darak Banana Fritters ... 66
30. Darak Palitao ... 65
31. Darak Puto ... 64
32. Economical Pancit ... 41
33. Espasol No. I ... 44
34. Espasol No. II ... 44
35. Espasol No. III ... 44
36. Fish Kropeck ... 63
37. Goto y Arroz con Caldo ... 30
38. Guinataan Rice with Corn ... 54
39. Guinataan Rice with Mongo ... 42
40. Guinataan with Rice Balls ... 54

Page
41. Inangit 53
42. Jambalaya Shrimp 35
43. Kalamay Pinipig 43
44. Kalamay Latik 53
45. Keping 57
46. Leche Crema 49
47. Maja with Corn 48
48. Maja with Ubi 49
49. Maja Blanca 49
50. Oros-oros 52
51. Palitao 42
52. Panara 55
53. Pancit con Caldo 31
54. Pancit Guisado 40
55. Pancit with Palabok 40
56. Pichi-pichi 61
57. Pinindot with Banana and Sweet Potato 65
58. Pinipig Cinnamon Cake 61
59. Pinipig Cookies 60
60. Pinipig Crispies 61
61. Pinipig Crunches 60
62. Pinipig Rum Fruit Cake 62
63. Pollo y Arroz con Caldo 30
64. Puffed Rice 64
65. Puffed Rice Balls 64
66. Puto Bumbong 59
67. Puto Kawali 55
68. Puto Lansong 58
69. Puto Leavened with Baking Soda 47
70. Puto Leavened with Yeast 46
71. Puto Maya 51
72. Puto Tamales 50
73. Puto Seco 47
74. Putong Puti 46
75. Rice and Cheese Croquettes 34
76. Rice and Corn (Boiled and Steamed) 29
77. Rice and Grated Coconut (Boiled and Steamed) 29
78. Rice and Ground Meat Soup 31
79. Rice and Halaan Soup 32

Page
80. Rice and Shrimp Soup 31
81. Rice and Tomato Soup 31
82. Rice Croquettes 33
83. Rice Custard 51
84. Rice Fritters 33
85. Rice Pudding 60
86. Rice Soup (a la Chinese) 32
87. Rice Soup with Crab Meat 32
88. Sapin-sapin with Ubi Filling 52
89. Shrimp Fried Rice 39
90. Shrimp Kropeck 63
91. Shrimp Pilau 38
92. Sinaludsud 58
93. Sinukmani 43
94. Squash Ukoy 53
95. Suman sa Dahon or Suman Inantala 56
96. Suman sa Latik 56
97. Suman sa Lihia 55
98. Suman sa Ibus 56
99. Suman Pinipig with Latik 43
100. Tamales 50
101. Tikitiki Bunuelos 68
102. Tikitiki Coconut Cookies 69
103. " Custard 68
104. " Doughnut 69
105. " Espasol 66
106. " Fritters 66
107. " Golloria 67
108. " Hot Cakes 70
109. " Malagkit Kalamay 65
110. " Malagkit Mush 64
111. " Mamon 71
112. " Masapodrida 71
113. " Muffin 70
114. " Plain Cake 70
115. " Pudding 68
116. " Rice Cookies 69
117. " Ukoy 67
118. " Waffle 70
119. Tikoy 57
120. Ukoy with Eggs 42

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